



Kaunas University of Technology

School of Economics and Business

Management Accounting Methods in Internal Pricing Decisions

Master's Final Degree Project

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Summary

The paper analyses managerial accounting methods effect on pricing decision in a company group. The analysis is focused on management fee which is the main tool for the parent company to distribute their expenses. Managerial services are hard to measure because they do not involve tangible and physically measurable results, leaving space for manipulation for the purpose of tax evasion. Thus, understanding the way management fee is distributed between the units of a company group and knowing alternative distribution methods is very important. The aim of the paper is to find what is the optimal way to allocate managerial expenses and how this allocation makes an impact on company group's unit profit. In order to reach this aim, research literature was analysed and the factors influencing accounting data, pricing strategies and the development of pricing practices both internally and between the group companies have been aggregated.

Further, the literature analysis findings were compared and the schemes evaluating the following relations were prepared: process and structure map of accounting methods influencing factors; internal pricing decisions towards the final customer and internal pricing decisions towards company units or departments – transfer pricing. This analysis helped to determine the conditions needed for efficient management fee calculation and distribution between the units of a company group. It was found out that the management fee needs to ensure that the management services charged are compliant with governmental guidelines and the arm length's transaction principle and to ensure that the managerial services expenses of the management company are distributed adequately and efficiently to the other related parties of the groups.

In order to test if this goal is reached in company groups, a model was constituted. Model was tested on a company group consisting of twenty-four related companies. The research results showed that the constituted model was determined to be a beneficial tool for evaluating how company's profit can be improved through management fee distribution and that the company group unit's result after the management fee redistribution is affected both by the base on which it is being redistributed and by the ratio between the actual profit and the management fee amount distributed. To sum up, it is beneficial and even crucial to calculate the appropriate management fee and distribute it correctly and efficiently. It is proved that the management fee distribution can scientifically change the profitability of the company group's unit, thus leading to the wrong decision making toward the unit's performance and even future success.

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Santrauka

Darbe analizuojama vadybos apskaitos metodų įtaka vidinės kainodaros nustatymui įmonių grupėje. Daugiausia dėmesio skiriama valdymo mokesčiui, kuris yra pagrindinė patronuojančios įmonės priemonė paskirstyti savo išlaidas. Valdymo paslaugas sunku įvertinti, nes jos neapima apčiuopiamo ir fiziškai išmatuojamo rezultato. Dėl šios priežasties jos suteikia erdvės manipuliuoti ir gali būti naudojamos kaip mokesčių vengimo priemonė. Todėl labai svarbu suprasti kaip valdymo mokestis yra paskirstomas tarp įmonių grupės padalinių, ir žinoti alternatyvius paskirstymo metodus. Darbo tikslas yra išsiaiškinti optimalų būdą kaip paskirstyti valdymo išlaidas ir kaip šis paskirstymas daro įtaką įmonių grupės padalinio pelnui. Šiam tikslui pasiekti buvo išanalizuota mokslinė literatūra ir apibendrinti veiksniai, darantys įtaką valdymo apskaitos metodams, vidinės kainodaros strategijoms tiek įmonių viduje, tiek tarp grupės įmonių.

Taip pat buvo palyginti literatūros analizės metu atrasti ryšiai ir sudarytos juos atvaizduojančios struktūrinės schemos, įvertinančios veiksnius darančius įtaką apskaitos metodams, vidaus kainodaros sprendimams galutiniam vartotojui ir vidiniams kainodaros sprendimams įmonės padaliniam. Ši analizė padėjo nustatyti sąlygas, reikalingas efektyviam valdymo mokesčio apskaičiavimui ir paskirstymui tarp įmonių grupės vienetų. Buvo nustatyta, kad valdymo mokestis turi užtikrinti, kad valdymo paslaugos atitiktų vyriausybės nurodymus ir ištiestos rankos principą, bei užtikrinti, kad valdymo įmonės valdymo paslaugų išlaidos būtų tinkamai ir efektyviai paskirstytos kitoms kontrolės ryšiais susijusioms grupės įmonėms.

Norint patikrinti, ar šis tikslas yra įgyvendinamas įmonių grupėse, buvo sudarytas aštuonių žingsnių modelis. Modelis buvo pritaikytas tiriamoje įmonių grupėje, kurią sudaro dvidešimt keturios susijusios įmonės. Tyrimo rezultatai parodė, kad sudarytas modelis yra naudinga priemonė vertinant valdymo mokesčių paskirstymo įtaką įmonės pelnui. Taip pat buvo nustatyta kad įmonių grupės padalinio rezultatui po valdymo mokesčio perskirstymo įtakos turi ir bazė, pagal kurią jis perskirstomas, ir santykis tarp įmonės pelno ir paskirstyto valdymo mokesčio sumos. Apibendrinant galima teigti, kad apskaičiuoti tinkamą valdymo mokestį ir paskirstyti jį teisingai ir efektyviai yra naudinga ir netgi labai svarbu. Įrodyta, kad paskirstytas valdymo mokestis gali reikšmingai pakeisti įmonių grupės padalinio pelningumą, todėl tai gali lemti netinkamų sprendimų priėmimą dėl padalinio veiklos tęsimo ir jo sėkmės ateityje.

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Introduction

Every enterprise is confronted with the issue to set a good price for their product. It is especially interesting for young start-up companies. There are many variables which should be considered when making such decisions: all costs should be covered, price should be competitive in the market, customers should be willing to buy the product, target revenue goal should be reached. Ineffective pricing strategies are the reason that less than half of new product lines do not reach their sales and volume goals. It can be important to know what makes those strategies fail. What is the best way to develop good pricing practices? One of the areas of concern are the people who have the power to make pricing decisions. Are those decision makers aware of all dangers rising from accounting part and all steps of pricing strategy and what kind of educational background do they need? How do they know that the data is trustworthy and how do they transform the data from fulfilling financial purposes to managerial purposes? The work provides a brief overview of the decision making process in all stages of an organisational growth, problems that are being faced when building business from zero, when expanding organisations and when managing the business in several countries.

The final goal and the dream of many start-ups in organisations' growth is to become international. For this stage there are many recommendations and guidelines provided by economic development organisations like OECD. It is interesting to know if managers are aware of those guidelines and if they understand the importance of setting a good transfer pricing system. This is important because transfer pricing is also used for performance evaluation and bonuses, therefore directly affecting decision makers salary. Do those managers still prioritise maximising company's overall profit or do they prioritise their personal benefit? This and other various factors influence the way company group units interact with each other. The main tool for the parent company to distribute their expenses is management fee. Services like this is a risky zone to measure because it does not involve tangible and physically measurable result. Therefore, it gives space for manipulation and can be used for tax evasion. Thus, the main object of this work is the management accounting impact to internal pricing decisions in the management fee allocation case.

The research problem is finding the optimal way to allocate the costs included in the management fee determination and how its allocation can make an impact on company group's unit profit.

Therefore, this paper aim is to check how it is recommended to distribute the management fee in theory and develop a model that can help to decide how the costs for the managerial services fee should be allocated. In order to reach the aim, there are several objectives to be achieved:

1. Analyse research literature and aggregate the factors influencing accounting data, pricing strategies, the development of pricing practices and managerial services costs allocation.
2. Create a model for distributing the costs included in the management fee between the companies of the company group.
3. Prove the significance of management fee distribution between company's groups units.

By analysing various accounting methods and ways to improve internal pricing decisions, this paper examines which variables have an influence on management fee calculation and distribution.

In order to understand how transfer pricing rules are applied between group companies, a step by step model was constructed. To test that module, a company group with several levels of control was selected and the module was applied to this company's financial statements in order to understand how changing the variables changes the performance outcome of the units. According to the literature review, the lack of empirical research was noticed. The main reason might be that managerial reports are considered a commercial secret and managers are not willing to reveal such information. Therefore, it was beneficial to conduct the research in an European country and in this paper Denmark was chosen due to Denmark's excellent economic development example, increasing level of cooperation with Lithuania and data availability.

1. Factors influencing accounting procedures and problems arising while making pricing decisions

To understand the relationship between managerial accounting methods and pricing decisions, the paper starts by investigating these two concepts individually and to determine as many factors as possible which could make an impact to make one or other price decision. Thus, in the first part of this section, a brief overview of the factors affecting accounting procedures is provided. In the second part, the problems that appear when making pricing decisions internally are reviewed. Finally, the difficulties arising when setting up pricing decisions in between the units of the company group, especially problems preventing smooth and easy managerial services price determination and its costs allocation, are provided in the third part of the first section.

1.1. Influence on accounting methods

Management accounting is an important tool in providing decision-making information which increases the ability of the management to make informed decisions. It is a broad term combining several areas. Northcott and Doolin categorise accounting practices into four main fields: budgeting, record-keeping, decision making and long-term financial planning (Northcott, Doolin, 2000). Mike Tayles distinguishes four types of managerial accounting practices as the most important to investigate, i.e. performance measurement, planning and control, capital budgeting, and risk management (Tayles, Pike, Sofian, 2007). Hence, accuracy of management decisions is linked to the quality of management information available to them and management accounting provides such information. Rasid, Rahman and Ismail (Rasid, Rahman, Ismail, 2011) state that organisations need to obtain strong risk management systems to maintain the safety and soundness of their operations and management accounting contributes in providing information for risk management. In order to efficiently collect such information from various users, management accounting systems are used. Successful customer-oriented firms use managerial accounting systems which help them to enhance learning and ground the knowledge base to gain the competitive advantage (Nguyen, 2018). Such systems consist of confidential internal reports that aid managers in decision-making. It provides information from various departments of an organisation: finance, IT, marketing, human resources, operations and sales units. It also includes non-financial information, such as: cash on hand, current sales reports, number of sales calls per day, order backlog, delivery deadline dates, aging status of accounts receivables and payables, and current inventory levels of raw materials and finished products.

In order to understand how accounting practices influence pricing methods, it is important to know what influences accounting methods too. When taken together, small businesses comprise a big part of world countries' economies and it is crucial for their success to apply sound accounting practices. Small family business faces the issue to separate business goals from family interests. In family owned business, non economic factors, such as family relations and family members emotions might affect basic decisions. The level of family member influence does not depend on the closeness of the family member but rather their competences. Mostly trusted are family members with high level of competence (Huerta, Petrides, O'Shaughnessy, 2017). Small family businesses do not need precise unit costs and even find them a bit useless because they need to set product price based on market demand and on prices set by competitors. They just calculate approximate unitary costs and rough estimates of overhead. Some of them adds direct materials and labour hours and multiplies it by 1,5. Also, they only calculate and recalculate direct costs, overheads are usually fixed number, focusing

on the whole business profitability, instead of each product's profitability and complex productions costs are evaluated subjectively (Huerta, Petrides, O'Shaughnessy, 2017).

In such companies, managerial decisions often take into account the wellbeing of the family instead of being based on accounting data. For example, trying to avoid distortion in financial reports (like manipulating earning or aggressive tax planning) in order to maintain good reputation and positive family image. Even though there are articles saying that small family businesses owners make decisions spontaneously or based on their intuition, there are researchers that conclude that they also take conventional accounting practices and adapt them to fit their businesses. Other things that influence decisions besides owners' point of view are employee former knowledge and external experts advice. Out of fear of failure, owners control the implementation of accounting practices. External experts, such as accountants, advice changes which make financial reports to comply with regulations. Developed relationships and previous working experience with accountants determines whether owner trusts their suggestions (Huerta, Petrides, O'Shaughnessy, 2017). Thus, accountants' participation in strategic decision making is important, e.g., external accounting services are extensively used by small and medium enterprises and it is a valuable support for such companies. Studies showed that accountants are the first place to seek advice from (instead of bank, government agencies or business consultants). They provide advice because small and medium companies lack experience in some areas, like e.g. taxation, financial management, budgeting, succession planning, human resource management, salary administration and strategic management (Williams, O'Donovan, 2015).

It is becoming popular to maintain a sustainable business. However, cost reduction is the main factor that motivates to implement sustainable practices rather than social and moral benefits. CEO's integrity might also influence the accounting methods. If the top executives have accounting backgrounds, according to a survey, it might mean that the organisation would implement the lower level of accounting conservatism principle and would make less accruals which are increasing the income (Hu, Huang, Li, Liu, 2017).

The purpose of executives, managers and accountants is to protect the customer interest. But since the companies become more and more dependent on their intellectual capital, it is important for these professionals to understand and adapt to such changes and implement required actions into their managerial accounting policies (Guthrie, Parker, 2016). Organisations can be divided into High Intellectual Capital firms and Low Intellectual capital firms. High Intellectual Capital firms develop their profits from services which are knowledge intensive and from innovation (Tayles, Pike, Sofian, 2007). It is interesting to know how such companies manage intellectual capital and if they change their accounting practices based on it. According to theories, management should distinguish and measure most valuable resources of organisation. In order to determine what role management accounting plays in intellectual capital management, it is important to understand how management accounting changes over the period as organisation's strategy and how routines are implemented to convey the changes of growing knowledge-based economy. It was found out that intellectual capital does influence managerial accounting practices. It presents activity based costing into company, a combination of financial indicators (after-tax return on assets, after-tax return on sales, profit growth, sales growth, profit, share prices) and non-financial indicators (industry leadership, future outlook, overall response to competition, success rate in new product launches). Applying this combination,

management should develop a robust performance measurement and control system to ensure that strategy is implemented (Tayles, Pike, Sofian, 2007).

The way how external users might interpret accounting data also have an influence on accounting methods. J.R. Graham (Graham, Harvey, Rajgopal, 2005) investigated how often executives used voluntary disclosure - the provision of information by a company's management beyond requirements, where the information is believed to be relevant to the decision-making of users of the company's annual reports. They reveal that there are certain motives which makes the managers to disclose the data. For example, fluctuating stock prices are very important for managers in the big corporation, whose stocks are being traded in the stock market. Such fluctuations might influence company's results and therefore manager's bonuses. Therefore, when company is providing not so good financial results, managers tend to willingly disclose the information in advance – in order not to result in market shock and stock price drop later. They rather allow the market to “take in” bad information gradually (Graham, Harvey, Rajgopal, 2005). When company grows from small start-up to organization with several departments, its accounting changes too. Stefan Schiller states that executives would rather take economic actions that could have negative long-term consequences than make accounting choices that are within Generally Accepted Accounting Principles to manage earnings. They admit sacrificing long-term value to smooth current earnings (Schiller, 2010).

Furthermore, a couple of methods for costs related information collection and allocation are introduced, which are used in managerial accounting. Life-cycle costing is a decision-making tool when the managers evaluate and forecast costs for the entire product value chain process: from researching how to create the initial product to its elimination (Saridaki, Haugbølle, 2019). One of the more advanced ways of calculating costs and allocating fixed costs between products is the activity-based costing. In order to determine an appropriate price which would cover all costs, company needs to know all possible costs that their product uses. Ahmed E. Haroun (Haroun, 2015) article about activity-based costing introduces an alternative option to the traditional cost accounting system. It is a cost allocation system which provides more accurate cost estimates rather than the traditional “order costing” methods. ABC is a useful tool to distribute the overhead costs in proportion (fairly) to the actual activities performed in a specific job and, hence, enhance the rationality of decision making, i.e. will not distort the accounting information used for cost reduction, pricing, and evaluation matters. However, there are authors who also say that it is not necessary to change to activity-based costing because existing methods are satisfying enough for the companies which already have accounting practices embedded (Quinn, Elafi, Mulgrew, 2017).

1.2. Pricing decisions in the inside of the organisational units

After analysing management accounting methods, usage and disclosure, literature analysis focuses on forming pricing decisions. Jennifer Rowley (Rowley, 1997) stresses that in order to understand what kind of relations lay under the term “pricing”, it is necessary to consider a number of aspects, including the classical relationship between price and supply and demand, pricing objectives, factors affecting pricing decisions and aspects of pricing policy and pricing methods.

Pricing is commonly known to be firm-specific, however, it can be summarised and categorised too. There are six main pricing strategies which are used in European countries (Carricano, 2016):

- Cost-plus - common pricing strategy and good for starting pricing policy because it sums up costs and adds markup. The markup is usually determined by the market conditions and is relatively elastic.
- Leader - a strategy where the low-price product or service is offered to attract customers despite the fact that the price might not even cover the costs. Then, other higher cost services are offered to customers. It is mostly used if company has a big market share.
- Neutral - default pricing strategy for the companies which have small market share. The price is adjusted to competitors' prices or set by the market in general. It is a safe price strategy to choose because it does not differentiate the product or gain market share.
- Opportunistic - responds to demand. Companies which use this pricing method decrease the price when demand is low and competition is big and increase it when demand is high and competition is small.
- Penetration - when company wants to enter a new market or aggressively expand their market share at any cost.
- Skimming - when the highest possible price is charged at the beginning which gets reduced later. Optimal in segments which are not elastic (Carricano, Horngren, Avlonitis, Wu, et al.).

A lot of companies do not have enough material based by facts to ground their pricing policy. Between those companies who do have material, a large part still uses old-fashioned cost-plus method (Carricano, 2016). Continuing further, the pricing where the price is set according to customer's perception of value is called value-informed pricing. The goal is to be able to set the price which would fit between the lower and upper pricing thresholds by understanding the target customer well enough (Ingenbleek, 2007). I.e. not to have customers wonder why it is so cheap or overpriced but getting the price which customer would accept as fair.

Carricano (Carricano, 2016) defines the following groups of variables which can determine the price more precisely or the conditions under which pricing strategy should be used: market-based (market size, growth rate, price elasticity and sensitivity); company-based (company's size, capacity utilization); competition-based (has a strong impact on pricing power, product perceived value and quality are main determinants); and product-based (market share). Liozu and Hinterhuber (Liozu, Hinterhuber, 2012) explains that there are three main approaches to pricing used in industrial markets: cost-based, competition-based and value-based and further investigates value-based pricing in their article. Charles R. Duke (Duke, 1994) describes a modified version of the Tellis Price Strategy Matrix to enable coordinated market issues and company strategies by directing emphasis on pricing issues and techniques that are appropriate and effective. By using this type of matrix as a guide, product managers can quickly evaluate the appropriate issues of concern for a given pricing decision and then progress toward a pricing decision with more confidence.

There are certain programs developed in order to help companies set their product prices. Usage of price optimisation tools and developing pricing strategies has been increasing, but companies have been reluctant to share their pricing "secrets" in the fear of their competitors finding out. There is a tendency that not all companies are seeking to increase their revenues through pricing execution. Moreover, in general price optimisation tools are still being developed and have some issues, but

these tools are very convenient for companies operating in large scale online. Such tools would typically include the following functions: “all you can eat” pricing (fixed despite the usage); bundled pricing (lower price for bundles); concurrent user pricing (pricing per active user); CPU pricing (pricing per active device); hybrid pricing (combined fixed and variable costs of product usage); loyalty pricing (rewards for frequent purchases); named user pricing (price per user category); site license pricing (overall license price); tiered pricing (price depending on number of users); value based pricing (charging for the value created to client); upgrade pricing (Davidson, Simonetto, 2005).

Pricing tends to vary a lot in businesses which consist of several product lines. Discounts might reduce the price up to ninety percent. Pricing is shifting in project based or very competitive markets. For example, personal computers industry, where an item can lose its value very quickly due to technological improvements (Davidson, Simonetto, 2005). In big corporations, internal prices are used to sell and buy goods between different subsidiaries or departments. The pricing strategies which these multinational organization units use to trade between each other are called transfer pricing. Holtzman (Holtzman, 2014) provides a well-developed definition, that transfer pricing is inter-company pricing arrangements relating to transactions between related business entities. Since the price setting is such a complex process, it is often very poorly planned and documented. It can be influenced by customers negotiating powers and expertise and confidence of the sales staff (Davidson, Simonetto, 2005). Davidson, Simonetto categorised organisational pricing processes into four categories:

- Setting pricing policy (creating standardised rules and setting discount levels),
- Optimization of the quote (individual proposals, default price quotes, providing comparable customers and orders, making pricing trend charts),
- Enforcement of pricing policies (setting supervisor approval processes),
- Analysing customer profitability (actual profitability of customers including applied discounts) (Davidson, Simonetto, 2005).

Most of the pricing methodology related articles explore manufacturing companies’ pricing decisions. For this reason, several articles about services were also investigated. Allred, Valentin and Chakraborty (Allred, Valentin, Chakraborty, 2010) study intends to examine the pricing of a risky service - eye surgery, which is exposed to notable health and financial risk. Authors investigated several aspects which affect eye surgery pricing decisions. For example, they conducted a research where they showed participants several eye surgery price packages. There were three different price levels: 300, 400 and 600 USD. For comparison, these price levels were later changed to 299, 399 and 599 USD. Even though numbers expressed in such way seemed to be much less expensive, surgeries advertised like this were also interpreted as a lower quality service. Such tendency can be seen in many enterprises which are advertising as high quality services providers, especially in the healthcare sector.

Pricing strategy and pricing practices might often get confused. Pricing literature in most cases does not make the difference between these two terms. Therefore, it is important to know, that the main difference between price strategy and pricing practice is that price strategy can be categorised and seen as tendency in the market and pricing practice is not visible to the outside world because organisations do not disclose it (Ingenbleek, Lans, 2013).

1.3. Pricing decisions in between the organisational units

However, the pricing decisions are made not only within the units and they are not only directed towards the final customer. When company grows bigger and becomes an organisation with several departments, then it grows more by establishing companies even in different countries and when those group companies gain an advantage against local companies, then the need for governmental guidelines arises and thus transfer pricing rules become important. The essence of these rules is to ensure that the transactions happening between those related companies are fair and equivalent to transactions as if they would be independent. Hence, the term transfer pricing is introduced, which is important because of the scale of the big international companies and their effect to host country's budget income. Therefore, it is necessary to understand how related party transactions are perceived in daily organisational life. There are a few people who have access to this data, one of them are auditors. Therefore, in the second part it will be further investigated what difficulties auditors face. When auditors fail to find any related party transactions in tangible assets movement, their attention turns to management fees.

One of the problems that are faced when the company is trying to set up efficient management fee is the lack of data or resources to effectively measure managerial services provided. New managers might also lack experience and its hard to find examples of management fee calculation and allocation which are actually applied in practice, since most of the time this information is confidential. Governmental guidelines are often vague or written in legal terms and are hard to understand. Finally, there are several ways to allocate managerial expenses and it is not easy to decide which is the best. Thus, managers choose to set up a fixed fee at the beginning of the contract

Another problem is that the services are a risky zone to measure because it does not involve tangible and physically measurable results. Especially when such services include benefit giving services provided from one related company to another. "An "intra-group" service is a service usually performed by one member of a multinational group for the benefit of one or more related members of the same group" (Przysuski, Lalapet, Swaneveld, Paul, 2004). It especially needs careful investigation when the services are provided between group companies operating in different countries with different corporate income tax rates. Such services can be simultaneously called management or administration fees. It is one of the best tools to gain an advantage in certain country's lower tax rate by increasing income there. It can be achieved by charging management fees to the subsidiary in a higher tax rate country. Even though such action can be accused as being tax evasion, it is actually a tax planning tool if its legitimacy can be proved by appropriate management fees calculations and supported by proper documentation (Przysuski, Lalapet, Swaneveld, Paul, 2004). However, it is noticed that intra-group transactions often lack documentation, or it is incomplete, but failing to follow transfer pricing rules might result in huge fines.

Considering the above-mentioned risks, the second part of this paper will conduct deeper theoretical analysis in order to understand the relation between accounting methods and managerial choices. The connection between financial data and internal and external transfer pricing decisions will be further analysed in section two. Then, summarized and compared information from section two will be implemented in a model which is presented the section three. Finally, model relevance is tested in section four and conclusions are presented in section five.

2. Accounting methods and pricing decision relation in academic literature

After understanding the main issues that decision makers face when trying to determine efficient price, second section performs a literature analysis in order to find the solutions for the problems mentioned in the first section.

2.1. The comparison of financial accounting and management accounting and how it is used by decision makers

Financial accounting purpose is to collect data of company's operations and aggregate them into financial statements which are later used for both external and internal users and for tax purposes. Managerial accounting information users are mostly internal. Financial accounting data calculation and outcome need to be as precise as possible, where managerial accounting users often receive estimated numbers. Moreover, financial accounting reports can be manipulated – since the information is available to external users, company management might not want to reveal all information which can be used by competitors. Internal accounting information for managerial use must reveal actual company's situation with all negative points. For example, if it displays unprofitable products then the management can see the problematic areas and take action to improve it. In general, managerial accounting is used by decision makers.

Cost assignment is important to managers. It means assigning indirect costs (or overheads) to cost objects (for example products or customers). And for this reason, the way an accountant understands and distributes company expenses between direct costs and indirect costs is becoming important for whole decision making process (Horngren, Foster, Datar, Rajan, Ittner, 2012). Indirect costs usually consist of auxiliary expenses needed to maintain operations. For example, administration, rent, energy, repair and maintenance, insurance and the salary expenses for employees not involved in product manufacturing, usually from administration or management departments. Capital expenses such as depreciation and interest are included in this category too (Tan, Ineveld, Redekop, Roijen, 2009).

Decision makers use various methods to calculate costs depending on the situation. And the way, that costs are computed for financial reporting, might not fit for internal reporting. For example, advertising costs for launching a new product need to be expensed and included in profit and loss statement in the same period as they incurred. But to accurately evaluate how managers are performing, it might be better to capitalise such expenses and expense them during the several years of product development cycle (Horngren, Foster, Datar, Rajan, Ittner, 2012).

According to Paul Collier and Alan Gregory, strategic management includes not only the analysis of company's costs and product market, monitoring company's strategy, but also analysing competitors' costs and strategy. Furthermore, authors agree that the importance of non-financial information should be added to this description. Therefore, there are two areas of strategic management accounting: providing information assisting in strategic plans development and constantly observing the market, competitors, their costs and price setting (Collier, Gregory, 1995). The ability to monitor competitors cost structure depends on the availability of such data. For example, in accommodation sector it is possible to find room selling rates, discounts, payroll expenses, hotel evaluations arranged in order to receive financing, site and building costs and other statistics. Such data is collected and analysed not only by marketing department but also such analysis and reports are prepared by

accountants. When necessary, accounting department receives a task to analyse certain competitor, for example market leader, its expenses and price structure. Strategic management became an “integral part of the services provided by the finance function to decision makers” as described by Collier (Collier, Gregory, 1995). The differences between financial accounting and managerial accounting are portrayed in table 1.

Table 1. Comparison between Financial accounting and managerial accounting (based on Collier, Gregory, Horngren and others)

Financial accounting features	Managerial accounting features
Both external and internal users and for tax purposes	Mostly internal use
As precise as possible	Estimations
Can be manipulated to show better view	Must reveal true situation even if it is bad
Financial accounting practices	Managerial accounting practices
Record-keeping	Performance measurement
Budgeting (the longer planning time - the less accurate)	Planning and control
Long-term financial planning	Capital budgeting (including non financial data)
Decision making: <ul style="list-style-type: none"> - many components - increased risk of mistake - understanding time period principle 	Risk management

There is a gap between pricing strategies and pricing practices because in reality decision makers often do not have full information, competence or resources to understand countless data that is available or the simple understanding of ongoing issues. Managers, owners and similar decision makers often are restrained by the lack of available information, situation comprehension and time limit. Then, they rely on general accepted knowledge and common sense while making decisions (Watson, Wood, Fernie, 2015).

Price decision maker can alternatively be called buyer, price manager or price executive. Only few of them received education on managerial areas, most of the time they had years of experience in retail when were promoted to decision makers. It was interesting outcome of the survey that none of the participants received official training on the pricing theories or pricing. They say that rules and goals set by organisation guides them, like maintaining minimum margin percentage targets and price parity with competitors. Margin percentage can be straightforward – grounded by product cost and normal every day selling price. And it can reflect the actual prices paid by customers, which on top of costs and regular price also includes promotions (Watson, Wood, Fernie, 2015).

Watson, Wood and Fernie analyse how prices are set in grocery retail. Most retailers choose cost-plus pricing strategy instead of analysing value perceived by customers and set prices based on this information. The price strategies are categorised into 3 groups: EDLP, HiLo and a mix of the first two. EDLP means stable and consistent everyday low prices. HiLo means the promotions on the small amount of products occurring many times in short periods. In addition to these price strategies, exclusive pricing, moderately promotional pricing and aggressive pricing are also used. It is worth to

mention that the price is not often adapted at the top level, but decision making can be transferred to local branches to comply with local customer needs (Watson, Wood, Fernie, 2015).

2.2. The influence of accounting information structure and the choice of accounting methods

W.R. Singleton investigated how several different ways of reporting might have an impact of the decisions made by decision makers. In this research, the account consolidation impact was examined. In general, consolidated report is considered to be more informative and conveying better company value compared to the situations when reporting is not consolidated. When preparing consolidated report there are several issues arising. For example, it is important to decide which affiliated companies need to be included, i.e. percentage of ownership or how much control parent company has over the other companies. But in his research, Singleton investigated the choice of consolidation technique and its impact on decision makers. Five techniques were explored:

- Classical consolidation method which means full consolidation of the main and affiliated companies while excluding intercompany transactions.
- Equity method which records the investment in subsidiary.
- Proportionate consolidation method which takes a proportion of company's income, expenses, assets and liabilities based on the level in which company participates in business venture
- Consolidated company group statements and parent company statements are presented separately,
- Not consolidating group statements and presenting each company individually (Singleton, 2010).

Report users had to guess insolvency, decide how much money they would be willing to loan and evaluate share price. Financial information users from USA, Canada and Australia revealed that their decisions indeed were influenced by the choice of consolidation method (Singleton, 2010). For example, results showed that users predict higher insolvency for company group when the report is consolidated with equity method compared to non-consolidated reports. Such results imply that the choice whether to give a loan or the analytical evaluation of the company can be influenced by consolidation method and therefore "efficient allocation of capital in financial markets could be influenced by accounting method choice, instead of basic underlying economic events" (Singleton, 2010).

There are three key economic theories which explore the choice of accounting methods:

- Efficient contracting. Managers try their best to increase the company's value, reduce agency costs and implement methods to lower company's profit so it would pay less tax, and making accounting choices accordingly.
- Earnings management. Managers use their ability to alter transactions to mislead stakeholders and shareholders in order to receive desired outcome. For example, to move costs in accounting periods to reduce fluctuation and "smooth" the results in order to create image that company is stable and trustable. Ana Morais found various examples on how companies change its actuarial accounting methods in order to achieve desired results.
- Information signalling. If managers work is evaluated monetary based on their ability to reveal true company's value in financial statements, then their accounting choices include their expectation about company's future cash flows.

The impact of accounting method choice can be seen in Ana Morais investigation. Author analyses three accounting methods (the profit or loss method, the equity recognition method and the corridor

method) described in IAS 19 which influence actuarial gain or loss. As summarised by author, this standard „allows a choice between recognising all actuarial gains and losses either in the income statement or in equity, or recognising only part of actuarial gains and losses in the income statement“ (Morais, 2010). Sector also affects accounting methods chosen. Companies working in financial sector are more regulated and have to spend extra resources to comply with public authorities' requirements.

The following paragraph provides several options how managers can influence the net profit of the company:

- Inventory cost flow. When the prices are rising, it is possible to use LIFO method to lower the income (which means that the goods which were most recently received will be written off first). The net income is therefore reduced. Such postponement of net income recognition also postpones the payment of related taxes and increase of cash flow for the period.
- Depreciation method. Straight line method results in higher profit than accelerated method or the combination of both depreciation methods and therefore is more beneficial to managers.
- Investment tax credit (allowance by government to deduct certain investment related costs from the total amount of the payable tax). There are two ways to treat investment tax credit: the flow-through method and deferral method. The first method increases accounting income with the tax credit amount in the period of the occurrence of investment costs. Meanwhile, while using the deferral method, companies distribute the tax credit over the useful life of the purchased asset which incurred investment costs and gave the reason to receive such tax credit. Theoretically, deferral method is correctly allocating expenses to the revenues earned, but the flow-through method is more beneficial to managers because it increases company's profit in the earlier period (Wright, Guan, 2004).

There are two ways how managers can influence company's income: decreasing and increasing it. Wright, Guan, 2004 study shown that companies any way related to management buyouts tend to choose methods that increase income more often than the companies which are not involved in management buyouts. It is logical, because when company is bought out and becomes a private company, new owners want to increase their wealth (Wright, Guan, 2004).

Moreover, it is noticed that managers who receive earnings based bonus select accounting methods to maximise their premium. However, methods that increase income in current period can have negative effect on future cash flows, according to studies. Then, it is also observed that some managers who know about the opportunity of MBO might be tempted to try to reduce the costs of buying shares. Just before the acquiring the shares, managers used to make discretionary accruals (liabilities which are not mandatory but expected in the future) (Wright, Guan, 2004).

Companies may change accounting methods to avoid breaching certain thresholds and limits stated by creditor when making a loan agreement, and herewith avoiding the arising costs from the failure to maintain the agreement conditions other than making payments on regular terms. Hall and Swinney made a hypothesis that all companies should attempt to change their accounting methods when anticipating default and the only condition preventing them from doing that would be inability to be flexible (when companies are already using income increasing and liberal accounting methods) or the lack of incentive when, for example, the period loss is already big enough that the penalties from

loaner might seem insignificant. Their research proves that high default risk companies change their accounting methods much more than the companies that do not face such risk (Hall, Swinney, 2004).

Companies should implement social and environmental aspects into their decision making in order to add value to society wellbeing, improve communication with non-profit organisations, thus maintaining their good image in public (Nikolaou, Evangelinos, 2010).

Financial department prepares long term balance sheet, profit and loss and cash flow budgets. The most accurate and credible is the next year budget, the following year forecasted data becomes increasingly subjective. Despite that, budgets are prepared for the upcoming 3 to 5 years because strategic decision makers need longer period to plan how to achieve sufficient business funding. Budget can be set up in the module prepared by external consultants or developed internally. Non-financial data is used to foresee future income, for example, calculating existing average user profitability and multiplying it by expected user number or finding occupancy rate and multiplying it by average room price in accommodation services (Collier, Gregory, 1995).

Decision makers use aggregated information which consists of many elements. Information comes from invoices, vouchers and similar documents and is processed by accountants –distributed, allocated and transferred manually. When final result includes so many components, mistakes can easily happen. Inaccurate information, regardless whether it was made by accident or on purpose and due to negligence, can lead to wrong decisions. For example, if the information is used to compare product profitability, it can result in cutting expenses for product which already consumes moderate amount of resources. Or on the contrary - spending extra resources on product which already uses too much of it. It might be useful for managers to understand the timing of registering expenses and how invoices and vouchers received after the end of short period are treated. Incorrectly accessed data can distort product information. There is also time pressure on accounting employees. Managers and company owners set strict deadlines in order to receive data as soon as possible. They want to know how their product lines are performing and how their budgets deviate from actual financial data.

Bogt and Helden (2012) investigated whether research in managerial accounting has practical value and would help to solve problems in companies and also tried to compare whether qualitative or quantitative research is more efficient practically. The results showed that most of the journals that publishes modern researches seem to think that practical relevance of the paper is only complimentary. They take into consideration the scientific value of the research rather than practical value. There is no strong difference over which type of research is more relevant for accounting field since they both supplement each other, but some publishers highlight that the qualitative research is more popular because it takes less time than collecting data and analysing it. Researchers tend to only seek to understand how certain method works, but not to highlight its advantages in the fear of looking like they are trying to sell that method (Bogt, Helden, 2012).

2.3. Choosing pricing strategy

Companies need to develop pricing strategies for both domestic and international markets they export to, since products and services started to easily cross borders. Pricing reduction is not unusual among those companies which fixed costs are much higher than their variable costs. For example, software and automobile companies, who offered discounts and lowered prices to maintain their sales and reduce their new inventory before the economic crisis at the beginning of the new century. Ineffective

pricing strategies are the reason that less than half of new product lines do not reach their sales and volume goals.

In the product development cycle, price determination is the last and often overlooked step. In order to determine the price, managers need to evaluate costs data presented them from the accounting department and compare it with expected income but also consider market price that would be acceptable for final customers (Hogan, Lucke, 2006). That's where costs allocation and true and fair view of the data becomes very important for the decision makers. Receiving faulty data from accounting department could make pricing decisions ineffective. Despite that, Hogan and Lucke summarised three problems which according to them, could negatively affect price decision process and should be avoided. When taking all these potential dangers into account, company can develop credible pricing strategy (Hogan, Lucke, 2006). The biggest issue for managers is to grasp the value of the product they are developing – it is very easy to sell it undervalued or overvalued compared to what benefits the product brings to customers. Same product value can be perceived differently by different customer segments, for example commercial companies and educational institutions. Also, competitors' prices can influence the way how customers understand the product value too. The in-depth interviews can be a great tool to understand product value. There are cases where companies increased product price several times after understanding how valuable the product would be for its customers and maintained high level of sales. (Hogan, Lucke, 2006). When new product contains certain risks and customers do not trust it, it is bad decision to lower the price expecting that it will attract more customers. Alternative decision would be developing some guarantees which would appease the customers. (Hogan, Lucke, 2006). In order to manage price after the initial launch it is advised not to focus on additional features but on core characteristics creating product value. Also, it is better to plan service improvements in advance or enhancing sales with existing customers instead of gaining market share thus avoiding competitors' attention and their price pressure (Hogan, Lucke, 2006).

When there is a need for price calculations, there are tools provided to fulfil those needs. In figure 8, there is a summary of the tools used and how they are developed based on the price calculation difficulty.

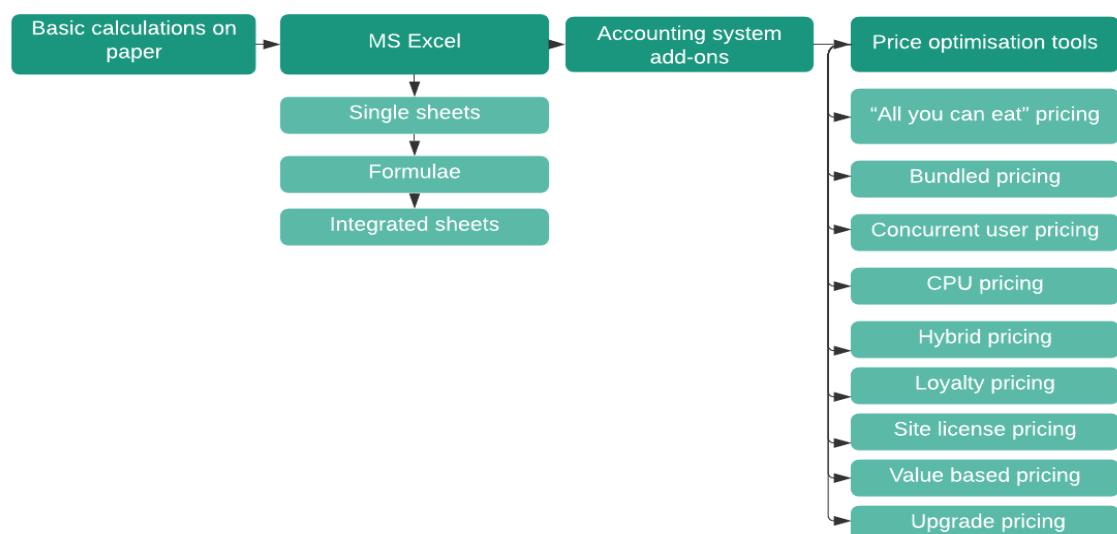


Fig. 1. Pricing calculation tools development

Price calculations vary according to company stage in its life and its size: from some scribbles on the paper made by small business owners to moving the data to MS Excel. When the number of sheets increases, those sheets can be connected together or moved to Google Sheets. It is a good tool for building more advanced structure since it is possible to combine and make sheets to withdraw information from each other. For those who cannot find existing satisfying tools, it is a good option to calculate price variation and build budgets. Then there are some modules and add-ons already integrated in the accounting systems which people might use just because it is already there, and they already paid for it. Finally, when company grows bigger and product range increases, there are certain price optimisation tools, especially useful for ecommerce and online shop owners which are getting more and more popular the further society is advancing. Those tools are providing very needed functions, such as fixed price despite the usage, lower price for bundles, pricing per active user or per active device, hybrid pricing of fixed and variable costs based on product usage, rewards for being loyal customer, e.g. frequently purchasing, price per user category, one price just to gain overall site accessibility, price depending on number of users or value created to client or upgrades added. The latter is very popular way for new start-ups attracting new users, giving them basic functions for free to get used to the website and then charging for “premium”, “VIP” or “pro” functions.

2.4. Introduction to transfer pricing, arm’s length transaction, controlled price and motives for creating a transfer pricing system

Multinational corporations have big influence on globalised economy. The departments and units in various countries are trading between themselves and measuring the profitability of its units using internal prices. “Transactions of goods or services between parent companies and subsidiaries, or among the subsidiaries of multinational organisations, are both common and frequent” (Lin, Chang, 2010). Transfer pricing is important in accounting because it affects decision making in organisations which have several divisions (Hummel, Pfaff, Bisig, 2018). Therefore it is important and relevant to analyse how the pricing decisions are made between these units, since various factors might influence it (for example, the need of the department’s head to increase unit profitability or cross-country company group owner’s willingness to participate in tax planning and transfer profits from a subsidiary in a higher taxable country to a country with more favourable tax rates. Thus, in the following part of the work transfer pricing will be described, decomposed and analysed.

The above-mentioned prices between inner units of the company are called transfer prices. “Transfer pricing manipulation refers to the prices charged for transferring goods, labour or technologies within the same enterprise system” (Lin, Chang, 2010). The aim of these prices is to make company’s profit as high as possible but in parallel it might be used to evaluate the performance of each subsidiary or department (Horngren, Foster, Datar, Rajan, Ittner, 2012). There are two main methods how to set the transfer prices - based on costs and according to the market prices. Decision makers in companies might get into the disagreement on which method to use depending on what is the most favourable option for their department (Horngren, Foster, Datar, Rajan, Ittner, 2012).

Someone might ask - why is it important to analyse transfer pricing if the prices stay within the company? Smallman and Adrien (1981) looked into this question. Managers of the international level organisations are spending a lot of their time setting transfer prices, even though it might seem that those prices stay inside of the company and do not influence overall profit (Smallman, Adrien, 1981).

Furthermore, Smallman and Adrien introduce the term “profit centre” and its explanation (which is also often used in the following literature). “In practice, the immediate consequence of the creation of any profit centre is that this profit centre starts to build its own life, to make its own decisions, to be judged both internally and externally on its financial results, to motivate its own management which will then be appraised on their performance. Here the real problem starts, as the combination of driving forces of each profit centre, the addition of their respective sub-objectives, does not generally match with the optimum result for the whole organisation” (Smallman, Adrien, 1981).

Overall profit is a sum of each profit centre result and the goal is to maximise it. Transfer price setting allows a company to reach that goal (Smallman, Adrien, 1981).

Various literature mentions common corporate profit maximised as a goal, which can be explained by using the following equation:

$$\begin{aligned}
 \text{Company Profit} &= \text{merchant sales of A} + \text{merchant sales of B} \\
 &- \text{variable costs A} - \text{variable costs B} - (\text{fixed costs A} + \text{B}) \\
 &= \text{contribution of sales A} + \text{contribution of sales B} - \text{fixed costs.}
 \end{aligned}
 \tag{1}$$

In other words, at any point in time, the optimum enterprise’s result is reached when the sum of each unit’s additions is maximised (Smallman, Adrien, 1981). In a free market, when one company sells goods, the other party has a decision to buy it, to hustle for better price or to buy the goods or services elsewhere. But in a multinational organisation it is not possible to do that when the unit is obliged to buy the goods at the pre-set prices and the other unit is obliged to sell at not the most beneficial price. The set price in this type of set conditions is called a controlled price (Holtzman, Nagel, 2014). In order to check if the controlled prices are fair and legitimate, it is necessary to find an arm’s length transaction and compare with it. An arm’s length transaction is a transaction where the buyer and seller are in no way connected and are acting independently in the exchange of goods and payment (Holtzman, Nagel, 2014).

There are external and internal factors that influence the choice of transfer pricing methods: operating profit of the company, host country subsidiaries’ interests, subsidiaries’ competitiveness in the host country, and host country subsidiaries’ need to maintain cash flows, tax and transfer pricing regulations, demographic conditions (Amidu, Coffie, Acquah, 2019). The above-mentioned factors create opportunity for gaining certain benefits after implementing a well-functioning transfer pricing system and putting effort into maintaining it. One of the benefits is gaining from currency exchange rate fluctuations while using flexibility of transferring liquid assets internally. When currency rate in one of the countries that international company is operating in plunges, funds can be transferred to other subsidiary, thus avoiding negative impacts of inflation (Lin, Chang, 2010)

If using market price for trading between subsidiaries would be considered fair price, then going above or below that price would be called high-pricing or low-pricing. Figure 1 below summarizes the distribution of main factors motivating international organisations to applying low or high pricing and how it is divided into external and internal factor groups.

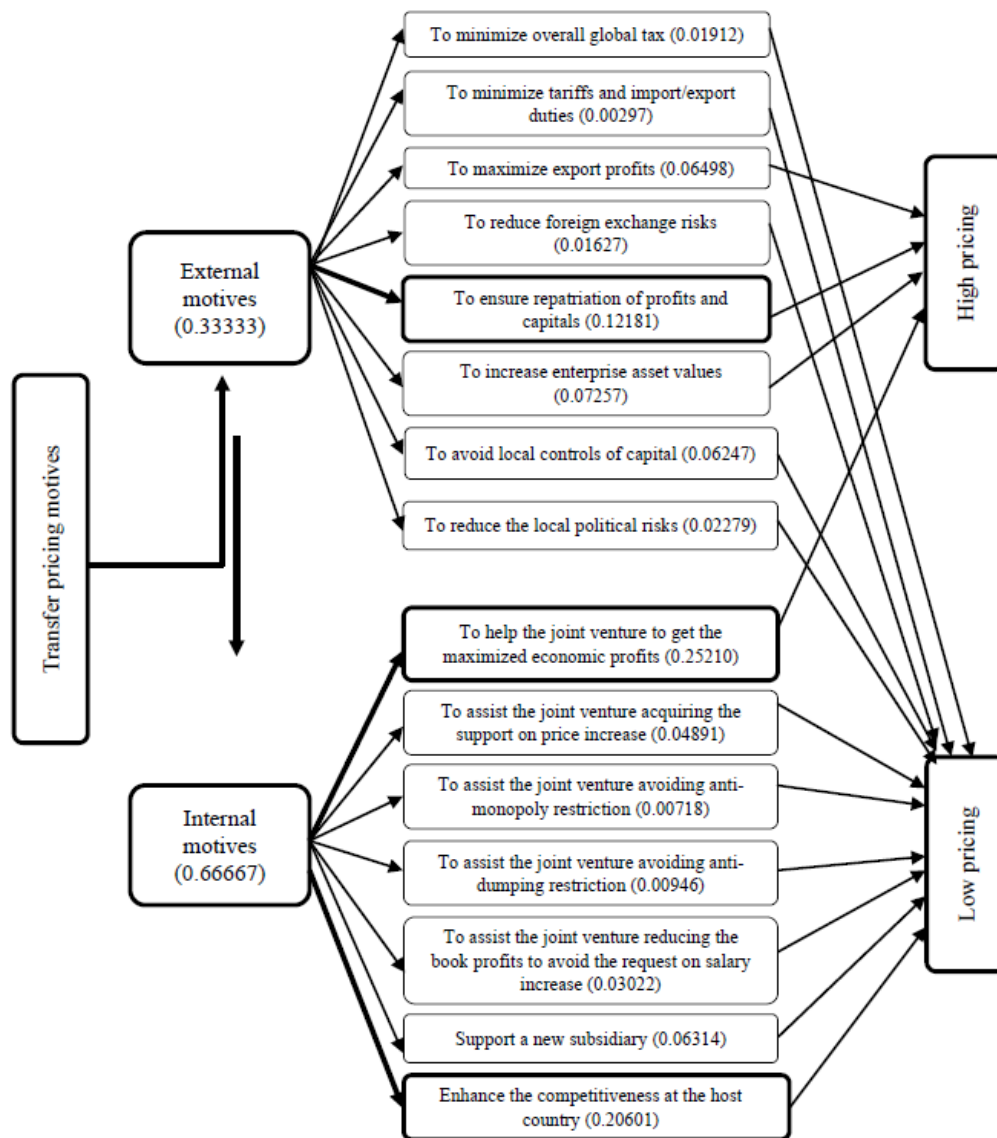


Fig. 2. Motives for transfer pricing strategies (Lin, Chang, 2010).

After interviewing eight chief executives, Lin and Chang revealed that almost all internal motives are based on low-pricing, also meaning that high-pricing is more used to reach goals externally (Lin, Chang, 2010). Overall, internal motives were more significant than external motives. Among them, two most significant internal motives were “to help the joint venture to get the maximized economic profits” (this goal is often highlighted as the main goal by other authors too) and to “enhance the competitiveness at the host country”.

Enhanced market competitiveness can be elaborated. If a multinational organisation is launching a new product, their goal is to get a share of the market by making the product competitive. Besides perfecting core and exclusive product characteristics that make it exceptional and appealing to customers, big organisations can help their product by setting favorable and advantageous transfer prices. It means, applying a low-pricing strategy on the internal trade thus increasing the product’s competitiveness in the market (Lin, Chang, 2010).

2.5. Transfer pricing methods analysis

There are many transfer pricing methods in literature and in governmental guidelines, therefore it is the best to analyse them in the following way. First, to compare how several sources are grouping those methods and distinguish the main groups. Then, check the amount of those methods provided. And lastly, move to the further analysis of the main methods and their calculation, application specifics, cases for the best use. To begin with, the paper compares the transfer pricing methods grouping by various authors:

Knowles and Mathur distinguish two types of transfer pricing systems - profit oriented and costs oriented. Profit oriented transfer pricing systems are further split into two groups. The first group is market-based transfer prices. Since there are countless variables influencing markets and they are imperfect, transfer prices developed on market provided information are more useful than the other transfer prices. An example of such methods is an adjusted prevailing market price method. It takes market price and adjusts it using discounts to make it more attractive. Second group is the non-market-based transfer prices. For example, there is an opportunity cost price method which uses the costs from the decision to sell products internally and not externally and it is a completely different approach to costs than actual costs incurred (Knowles, Mathur, 1984).

After analysing profit-based methods, the following paragraph examines the two main cost-based methods. The first method is the actual cost method - the method considers actual variable product costs or actual full product costs. However, the price setting becomes complicated since the actual costs can be calculated only after the production ends. Therefore, standard variable or full product costs are calculated which explains the essence of the standard cost method. However, standard prices are subjective and allow manipulation, also, they do not reflect real conditions. Which method to choose depends on the motivational drivers driving decision makers, market conditions the unit is operating in and the regulations established by the government (Knowles, Mathur, 1984).

For comparison, Smallman and Adrien were one of the first ones to categorise transfer pricing methods. Their structure is similar, but the first group of methods is more suitable called the market-based methods which is further decomposed into the "hard negotiation" and the "market price" methods. Second group is called the same - the cost-based methods and its subcategories - the total cost and the variable cost (Smallman, Adrien, 1981). Finally, there is another, a bit different way of splitting the methods: into traditional and transactional. Traditional transaction methods include the Comparable uncontrolled price method, resale price method and cost-plus method. Transactional profit methods include the transactional net margin method and transactional profit split methods (Beebeejaun, 2018). This approach is as well used in the newest OECD Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations issued in 2017.

In the following graph there is a classification provided by chartered accountants.



Fig. 3. Classification of methods (KC Mehta & Co. Chartered Accountants, 2013)

To sum up two main groups, one is called either traditional methods, price based methods or cost based methods. Second group is usually called transactional methods, or profit based/profit oriented. As already noticed by analysing other method classification, grouping is more or less similar, only named differently, which might be confusing for the person who is not delved into literature and is trying to find a quick answer, for example branch manager.

After analysing method grouping, it is interesting to compare which methods are recommended by authorities or mostly used. Many regulatory systems implement standards and procedures in order to force companies to use methods which would reflect their true income, which is the income that would be achieved using prices between independent parties. Such rules would impose justice and equality between controlled and uncontrolled parties. When the whole world with so many independent governments has opened their borders and became open for trade, there was a need for a body who could if not supervise but to at least provide professional insights and systemised guidelines, collect and present principles. Such body is already established and exists for over 60 years and is called Organisation for Economic Co-operation and Development (OECD). Guidelines issued by them promote equality and wellbeing for all people. Even though most OECD countries are from Europe, the economy of the United States of America is one of the strongest in the world and was the starting point of many corporations which later expanded their activity to the other world countries. Thus, it is worth investigating what is the USA government's opinion on the transfer pricing and comparing it to the recommendations provided by OECD..

Below in the table 2 is the comparison of methods prevailing in two organisations. In USA transfer pricing methods are suggested by Internal Revenue Service (IRS) - the US agency responsible for tax collection. If there is a gap in the table, then it means that there is no equivalent of the method on IRS or OECD side.

Table 2. Comparison between OECD and IRS Transfer pricing methods

OECD methods	IRS methods
-The comparable uncontrolled price method (CUPM)	-Comparable uncontrolled price method -CUT (N)

-The resale price method (RPM)	-Resale price method
-Cost plus method (CPM)	-Cost-plus method
-Transactional net margin (TNM) method	-
-Profit split method (PSM)	-Comparable Profit Split (N) -Residual Profit Split(N) -Other Profit Split (N)
-	-Appraisal method (O)
-	-Pricing components parts method (O)
-	-Proportionate profits method (O)
-	-Rate of return on investment method. (O)
-	-Supply substitute material method. (O)
-	-Agreed royalty (N) -Sliding royalty (N)

As it is visible in the table, IRS provides more transfer pricing methods where in OECD guidelines there are five main methods. For example, where OECD distinguishes profit split method, IRS divides it into three parts: comparable, residual (i.e. when the profit from routine functions is eliminated) and other profit split methods. But in OECD guidelines residual analysis is part of the “various approaches for splitting the profits”. Next to CUP method, IRS is providing CUT method designed for particular assets group - royalties (royalty related methods might be further specified as agreed royalty method based on fixed rate and sliding royalty method based on research and development). The reason behind this more detailed split might be that USA is a country containing the biggest number of multinational corporations (according to 2019 Fortune Global 500 ranking, USA contains 121 of 500 highest revenue earning multinational corporations in the world) and thus their legislation system need to be more adapted and to have detailed definitions. Analysing even further, it was found out that IRS changed its classification since nineteen eighties. The above described transfer pricing methods initially established a few decades ago and now not included has been marked with letter O, and newly added newer classification has been distinguished by the letter N. Methods included in both old and new classification are without any mark. Also, after evaluating the frequency of the usage of each method in the United States, it is clear that the cost-plus method is the most popular between American companies with 59 % frequency, whereas other methods varied between 1-7% (IRS, 2019)

Since OECD guidelines are more related to European market than IRS target information users, OECD methods will be further analysed after brief IRS methods overview and application suggestions. If possible, the Internal Revenue Service recommends using the comparable uncontrolled price method, which means finding the most similar transaction in the market between independent buyer and seller and using that price. Whereas CUP is for property and services, the Comparable Uncontrolled Transaction (CUT) method is constructed for intangible assets and royalties. The less differences there are between comparables and the less adjustments needed to implement, the better. However, it is not the most common choice of American companies and is used only by 5% of companies (IRS, 2019). If finding such similar transaction is unavailable, then

the second option should be applying the resale price method. This method requires calculating the appropriate markup percentage when comparing transactions between unrelated parties and deducting such markup from the selling party's suggested price. The markup should be calculated as gross margin. The calculation method is provided in the formula below.

$$\text{Gross Margin} = \frac{\text{Total Revenue} - \text{Cost of Goods Sold}}{\text{Total Revenue}} \quad (2)$$

It is also possible to use competitor's markup or sector's average markup (IRS, 2019). Cost plus method works similarly, but here instead a gross profit percentage is added to the selling unit's costs. Product costs are assumed to include all indirect costs, like buildings or machine depreciation, marketing costs (Knowles, Mathur, 1984). Such costs allocation gives flexibility to manipulate costs a bit since the indirect cost allocation can vary based on management judgment of cost drivers. Appraisal method defines the arm's length price as the price at which the independent buyer would agree to buy the product. Pricing components parts method is useful when fair component prices of the product is available, thus the product price is calculated by summing the price of such parts. Proportionate profits method, also called contribution margin method, allocates the part of total product profit to determine each unit's price charged. The rate of return on investment method is based on invested assets return and the supply substitute material method means that "the price or gross profit percentage of a similar product in an uncontrolled sale is the arm's-length price, as long as the substitution of the similar product for the controlled product does not result in a significant change in the taxpayer's resources" (Knowles, Mathur, 1984).

Third part consists of an elaborated one by one method analysis, provided in OECD guidelines and supplemented by information from chartered accountants. First of the traditional transaction methods and usually recommended to use unless circumstances do not allow it, is the comparable uncontrolled price method. Such circumstances require that the compared products or prices would be quite similar, meaning that any existing differences should not affect the price. The purpose of the method is finding uncontrolled transactions which would match the controlled transaction and comparing them. A controlled transaction is a transaction between related parties (one company or division having a certain amount of influence to another company or division through the fact that they are owed or partly owned by the same person or group of people).

The comparable uncontrolled price method can be further split into the internal and external comparable uncontrolled price methods. Internal CUPM is explained in the figure 3.

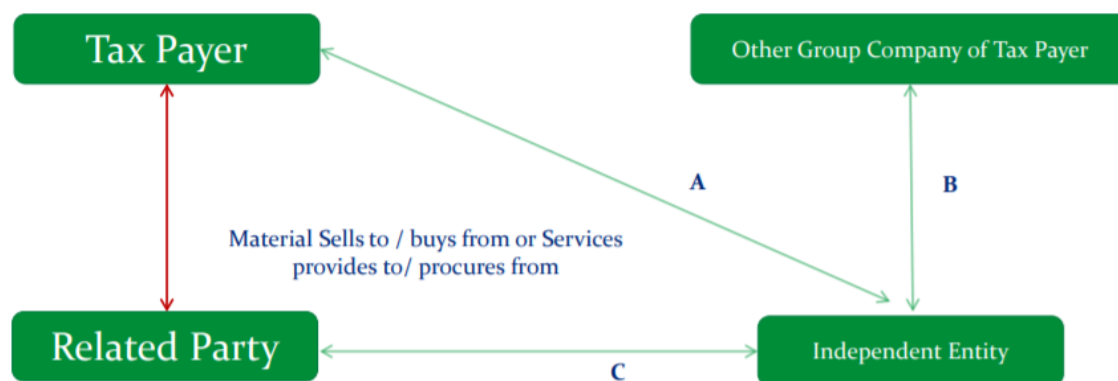


Fig. 4. Internal cup prices (KC Mehta & Co. Chartered Accountants, 2013)

Internal comparable uncontrolled price method means the comparison of tested transaction with the transaction where the taxpayer or the other party sells or buys a specific product or service to or from an unrelated enterprise under similar terms and circumstances in comparable quantities and markets. In the example provided in figure 3, if company X purchases products or services from the related party as well as the unrelated party, then price from the transaction with the unrelated party can be considered as the fair price. In an external CUP method example, company X purchases products or services only from related party and that related party sells products or services to independent entity, then that price can also be considered as comparable price (KC Mehta & Co. Chartered Accountants, 2013). Resale price method can be used in a situation where company X purchases a product from related party and resells that product to unrelated party. After deducting resale margin, fair transfer price is received (OECD, 2017). The cost plus method is calculated by adding relevant cost plus markup on the expenses incurred by the unit which is supplying the product. The markup should make the final price very similar to the price if it would exist in uncontrolled market conditions (OECD, 2017). Such method is applicable for units which provide services, sells goods for final stage of manufacture or has established long term agreements have been established between related parties (Beebeejaun, 2018).

After reviewing the three traditional transaction methods, transactional profit methods are introduced. OECD distinguished two methods in this group and the first method is called Transactional net margin method. This method sets a fair transfer price by evaluating profit margin which is calculated from the appropriate base in controlled transaction. Profit or loss gained from controlled costs, sales or assets can be a good indicator “whether the transaction was affected by conditions that differ from those that would have been made by independent enterprises in otherwise comparable circumstances” (OECD, 2017). Transactional profit methods are considered to be less reliable than traditional methods because profit or margin calculations include operating expenses, meaning that cost structure of comparable units might be too different for reliable comparison (Beebeejaun, 2018). Once it is clear that certain differences prevent finding comparable price, profit split method can be applied. Its purpose is to eliminate the differences resulting from controlled transaction which is affecting profits and anticipates what profit would have been if the transaction would not be controlled (OECD, 2017). This method is not as often used as the other methods since it requires a lot of effort to calculate trustworthy outcome, for example, it needs significant amounts of data and specific information which might be too difficult to acquire (KCH Meta chartered accountants, 2013). But in such case

where transactions are too much associated with each other that it is not possible anymore to assess them individually, then this method should be applied (Beebeejaun, 2018).

To sum up the third part, it is beneficial to know when to apply each method. The comparable uncontrolled price method is the most preferred method, considering the fact that the conditions defining the price being comparable are met. It is not an easy task to find such price or especially to reliably adjust it in order to eliminate the influence on the profit. The resale price method is the most reliable method if the value of the product was not boosted significantly (Beebeejaun, 2018). All in all, evaluators should consider time and resources and choose the method which would be as comparable as possible and require very little or almost no adjustments.

There are certain disadvantages of using cost-based methods. Applying unified costs measurement (calculated average actual costs or budgeted overhead rate per unit) on each subsidiary might be inefficient, since the subsidiary is unique and depending on the market it operates and the way its management behaves. Also, often the information is lacking to establish good cost-based pricing system and the decisions based on such information would most likely contain errors preventing optimal decision making (Smolarski, Wilner, Vega, 2019). Problems might also occur when negotiating for transfer prices between departments or units. If the risk of conflict arises, the unit manager needs to be involved if the conflict is internal and if the conflict is between units, corporate representatives should intervene and eliminate the problems that occurred (Hummel, Pfaff, Bisig, 2018). As it was explained in the other author's articles, the market is imperfect and it makes it difficult for central decision makers to provide unified transfer prices which would fit all units and benefit the company as a whole (Smolarski, Wilner, Vega, 2019). Although Hummel, Pfaff and Bisig's research determines that the same transfer price should not be used for making decisions and for tax reduction, but the same transfer price is often used for both internal and tax related purposes just because it is simpler and easier (Hummel, Pfaff, Bisig, 2018). However, Smolarski, Wilner and Vega (2019) provided a methodology to set transfer prices while operating in dynamic business environment. Authors state that most of the methods are suitable for static environments, while real options framework method can be applied to an environment full of uncertainties. The method consists of a framework of rules which are defined centrally, while the decision making is decentralised. It means, that central department establishes a list of situations and conditions and a list of transfer prices which they recommend to be used in a presence of those conditions (Smolarski, Wilner, Vega, 2019). Managers who have certain beliefs and intuition how the company will perform under uncertain conditions, thus they are using their professional judgment to choose the best option under real option method (Smolarski, Wilner, Vega, 2019). And in general, firms are performing better when they have flexibility in decision making.

2.6. Transfer pricing usage in tax avoidance and tax evasion

“Multinational tax challenges are among the most complex and potentially expensive issues facing companies with international operations” (Holtzman, Nagel, 2014). For example, if company has a subsidiary in foreign country and the tax rate there is higher, company would most likely artificially reduce operations there to keep the lower profit by manipulating transfer prices (Lin, Chang, 2010).

Amidu, Coffie and Acquah in a Journal of Financial Crime revealed how intense was tax evasion and internal transfer pricing rules breakage in one of the third world countries. Globalisation has made a great impact into making it easier for companies to expand into different countries, establishing

subsidiaries and therefore increasing the chance of corporations manipulating transfer pricing (Amidu, Coffie, Acquah, 2019). A way to manipulate transfer prices is the exchange of under-priced or overpriced goods or services between units who have the same ownership. To track and figure out such manipulations require a keen eye and resources, therefore it is reasonable to assume that in the developing countries such manipulations are often left undetected.

Transfer pricing manipulation and tax avoidance are one of the mechanisms used for earnings management. “Earnings management is defined as the active manipulation of accounting information to create an altered impression of the firm’s financial performance, as measured by its earnings” (Amidu, Coffie, Acquah, 2019). Other tools are changing accounting procedures, income smoothing, taking a big bath (Amidu, Coffie, Acquah, 2019). Managers, shareholders are concentrating on profit increase, ignoring moral aspect regarding outcomes of their actions, for example that after such operations, governments are robbed of their income and have less funds to fulfil their social and economic responsibilities.

According to Amidu, tax avoidance is increasing company’s value, allowing companies to have additional cash flow which could be used to pay out dividends or investments in assets (Amidu, Coffie, Acquah, 2019). However, such action has immoral aspects and might result in legal sanctions, therefore managers take that kind of measures only when they see personal gain as the result (Amidu, Coffie, Acquah, 2019). For example, personal benefit appears when management owns part of the company and taxes influence their assets directly or when there are bonuses which highly depends on the department or unit performance.

In order to evaluate the level at which companies might use transfer pricing to reach tax avoidance, Amidu, Coffie and Acquah developed a five variable index to measure transfer pricing aggressiveness. Each measure gives either one or zero points, therefore if a company receives five points it is very likely that the company manipulates transfer prices. The measures are described in the following list:

- Subsidiary is located in tax haven.
- There are existing transactions in current financial year with the subsidiary located in tax haven.
- Subsidiary or parent company is located in the country with different tax rate.
- There are existing transactions in current financial year with the subsidiary or parent company which is located in the country with different tax rate.
- There are payments to related parties for using the intangible assets which that party owns.

There is no unified way to define the term tax haven, therefore Jalan and Vaidyanathan established a list of characteristics which would add certain countries that provides benefits for the global companies to the list of tax haven countries. Benefits might be the country policy to levy very little or no tax at all on certain categories or the reputation that country itself creates by advertising as the tax haven. The following characteristics and country examples are:

- No tax income on the deposits held by foreigners (e.g. USA).
- Low corporation tax rates (e.g. Ireland which attracts big multinational companies such as Microsoft).
- Double taxation treaties for avoiding taxation on investments (e.g. Mauritius for Indian investments, The Netherlands for European investments)

- Right to create legislation (Singapore, Panama, Jersey, Guernsey, Isle of Man, etc.).
- Minimal regulation, disclosure and paperwork (e.g. Montserrat, Anguilla) (Jalan, Vaidyanathan, 2017).

One of the fears of people who participate in tax evasion is public exposure and legal institutions being able to find out about such activities, therefore creating obstacles for others to obtain such information is one of top priorities and countries who provided secrecy become attractive. To begin with, there are countries with secrecy laws protecting the identity of any individual involved (e.g. Liechtenstein, Singapore, Dubai and the Turks & Caicos islands), countries providing bank secrecy, which means that account owner's name is hidden (e.g. Austria, Luxembourg, Switzerland) and ownership secrecy, which means that to find information about ownership of offshore companies in the country is nearly impossible in the countries such as Nevada, Delaware, Wyoming in the USA (Jalan, Vaidyanathan, 2017).

Then, there are other specific characteristics which attracts companies and individuals to one or other country with convenient tax benefits: specific geographical market suppliers (e.g. the British Virgin Islands for China's market, Panama for Americans, Jersey for the London market, Vanuatu for Australians), specialist service market - alleviating taxation burden for certain sectors (e.g. Bermuda and Guernsey for reinsurance market, Cayman for hedge funds market) and attractive fund management for high net worth providers in the developed countries that regular person would never think of as a tax haven, for example Switzerland, London and New York (Jalan, Vaidyanathan, 2017).

As discussed above, tax evasion robs governments of their income and they have less funds to fulfil their social and economic responsibilities. Tax agencies do not have enough resources to check each company, therefore the auditor's role is very important. Auditors are the ones who are reviewing company financial statements and they should be able to detect tax evasion, but there are many problems that auditors face.

Problems start with the multinational organisations being non-cooperative. Companies seldom reveal elaborated information about transfer pricing practices when submitting annual reports. It becomes hard to understand the company's accounting, because they apply various techniques that conceal the transactions. It makes a problem worse when companies decline the request to reveal the information needed and yield only after getting permission from top executives. Thus, auditors carry the responsibility to thoughtfully check the transactions in order to detect any possible tax evasion and prevent governments from losing tax income (Muhammadi, Ahmed, Habib, 2015). Finally, disagreements between multinational organisations and local governments might emerge after the boost of investments from foreign countries. Government's expectations for collecting taxes and spending get distorted when transfer pricing manipulations allow international corporations a great opportunity to reduce local taxes meanwhile also giving local companies a competitive disadvantage. (Muhammadi, Ahmed, Habib, 2015).

The level of difficultness especially increases when the transactions are based or related to intangible assets. Since it is harder to measure than tangible assets, an issue arises when trying to understand if an intangible transaction has occurred between related parties, for example identifying and separating intangible assets and services provided or finding a similar transaction which would meet the requirements of an appropriate comparable (Muhammadi, Ahmed, Habib, 2015). Determining if the transaction actually took place and the intangible asset was passed to the new owner is also a difficult

task, especially in cases where the intangible asset holder is from a different country (Muhammadi, Ahmed, Habib, 2015). Finally, there are workload pressures and limited time for the completion of audits, especially tax refund audits. Therefore, lack of time makes auditors to give up which encourages tax evasion.

2.7. Transfer pricing integration with management control

There are two transfer pricing goals – to maximise company's profit and to evaluate the department management performance. Thus, it is interesting to evaluate the integration between the transfer pricing system and the management control system. It can be measured by evaluating transfer prices' effect on cost accounting, budgeting, followed by each unit management performance measurement and finally their remuneration. Therefore, transfer prices influence decision making in each profit centre and thus affect the whole organisation's financial result (Hummel, Pfaff, Bisig, 2018).

According to Hummel, Pfaff and Bisig research results, the transfer pricing system appears to be well integrated, and firms perceive their transfer pricing systems as being rather successful (Hummel, Pfaff, Bisig, 2018). The significant relationships were noticed between the following variables: between repair and internal transparency, between global transparency and flexibility and between global transparency and repair. In this case, the repair variable meant that the responsible person identifies existing transfer pricing system defects and successfully corrects them (Hummel, Pfaff, Bisig, 2018). For example, a cost-based transfer price might be corrected, if it does not provide the selling unit with a required profitability level.

The financial institutions use transfer pricing too. According to a survey carried out by Oyelere and Turner, the United Kingdom banks main target while setting transfer prices is to achieve the company's goals. It confirms the reasons provided in Horngren's transfer pricing explanation (Horngren, Foster, Datar, Rajan, Ittner, 2012). Banks and lending financial institutions often work as intermediates between those who have extra money and those who need it, bigger banks have branches and subsidiaries in various locations and top executives need to prepare a plan how to motivate branches and to stimulate them working towards achieving the common goal (Oyelere, Turner, 2000). Therefore, it is a good field to analyse how transfer pricing works. It is important to understand how much decision-making power bank managers have and how autonomous the branch is. It is closely related to performance management - if branch manager lack autonomy it is hard to evaluate how well the branch is performing. "Unit managers in an effective transfer pricing system should, all things being equal, exhibit greater level of autonomy than managers of branches where all costs are being centrally allocated" (Oyelere, Turner, 2000).

More than half of the research participants received their transfer prices already set by certain central department and had barely any autonomy to change them, the other part was contacted by the head department to consult before setting the prices used between units. Only one participant out of twenty-five United Kingdom banks and deposit taking institutions was able to set its transfer prices at the department level (Oyelere, Turner, 2000). In most cases, transfer prices are reviewed annually, and market price method was the most popular, which in banking sector case would be equal to the inter-bank rate, while one third of the participants used cost-based approach (Oyelere, Turner, 2000).

2.8. Aggregation of factors affecting internal pricing decisions

The first half of theoretical analysis explains the difference between financial accounting and management accounting, external and internal users of financial information. It also shows how important is cost assignment to managers and decision makers and how financial accounting reports can be manipulated (by changing specific accounting methods like variations in depreciation, inventory cost flow or investment tax credit accounting). Section 2.1.2. proves how simply changing the structure of accounting information can influence the way the company is perceived by external information users. After reading academic research papers it was noticed that many authors consider performance management as an inseparable part of managerial accounting. Further, paper advises how to choose pricing strategy, understand product value and that receiving faulty data from the accounting department could make pricing decisions ineffective.

In figure 4, a simple and clear price determination process is presented based on Hogan and Lucke research. It combines cost based evaluations with market based considerations.



Fig. 5. Generalised steps of price determination (Hogan, Lucke, 2006)

When looking at the simple six step structure, price determination might seem easy. But in reality, there are many factors positively or negatively influencing each of those steps. Factors influencing first points of price determination path are presented in figure 5 below. On top of that, there are several dangers which could negatively affect the price decision process and should be avoided. They are summarized in figure 6, for example, selling undervalued or overvalued products compared to what benefits the product brings to customers, or lowering the price expecting that it will attract more customers. It is also mentioned how to manage price strategy after the initial product launch, for example, focusing on core characteristics which creates product value.

In figure 5 you can see factors and subfactors influencing accounting method choice, for example the background of the decision maker, his integrity and education (i.e. CEO). For example, if CEO has

higher level of education, he or she makes less accruals. Also, it is important what is the company's size, who are the external information users and what are the limitations.

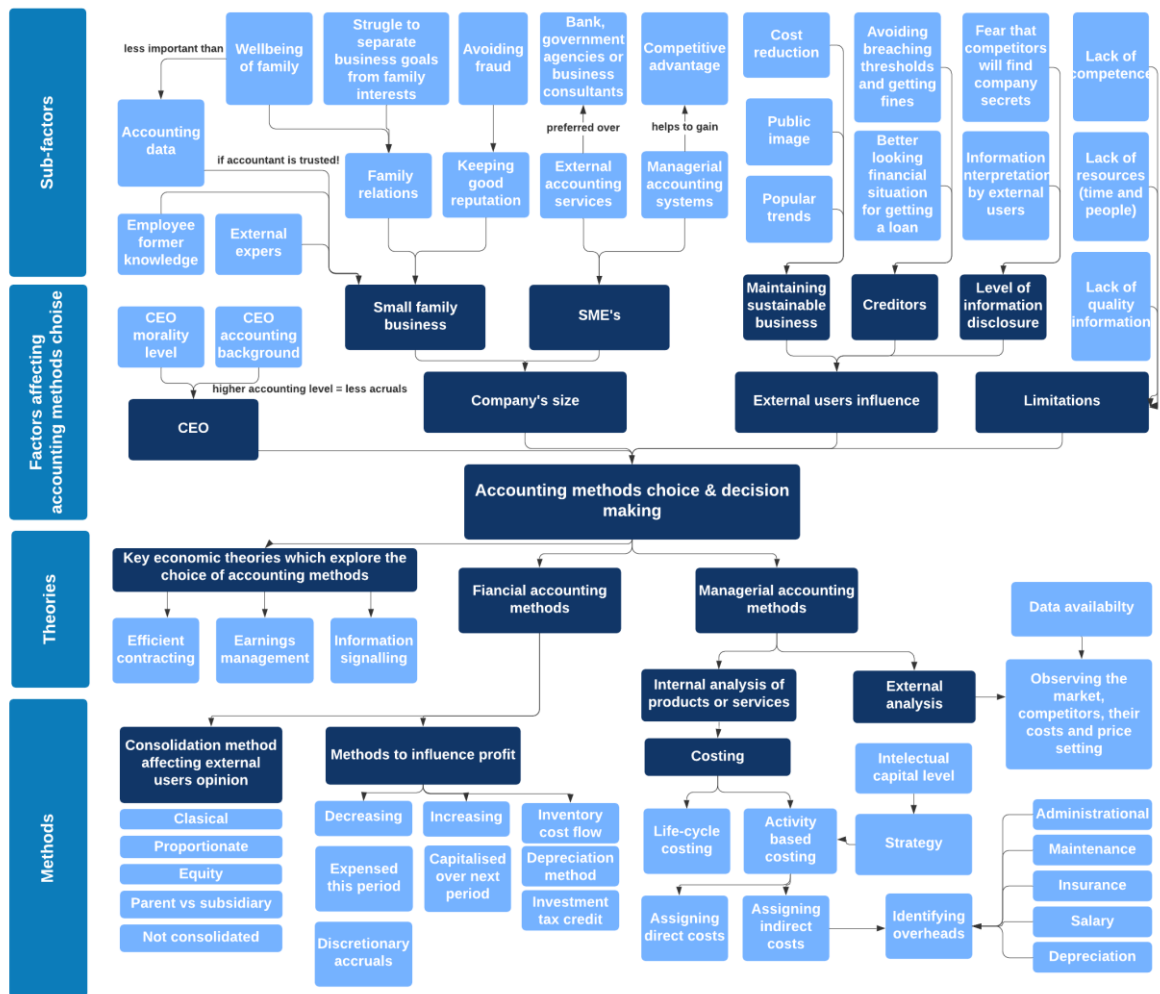


Fig. 6. Process and structure map of accounting methods influencing factors

Few tendencies were noticed: in family owned companies, the wellbeing of family is more important than actual accounting data and it is also judged by the previous experience with the accountant. In small and medium companies, accountant advice is more preferred than advice received from a bank or business consultant. The lower part of the chart shows three key economic theories about accounting methods, then it shows managerial and financial accounting method examples and a few specifications. For example, overheads cost allocation gave the start for activity-based costing which is closely related to strategy. But subjectively chosen cost drivers and many variables increase the risk of making mistakes. There is a branch showing profit increasing methods but sacrificing long term value to smooth current results might have a negative impact on future cash flow. One of the methods to decrease the profit is called discretionary accrual - not mandatory liabilities expected to appear in the future. Company groups can face an issue deciding how to display information - whether it needs to be consolidated. This chart helps to see the broader view, although the list is not final and could be updated.

Taking into consideration that there are so many factors, the question is raised: how do people define pricing strategy? Ineffective pricing strategies are the reason that less than half of new product lines do not reach their sales and volume goals. Figure 6 presents factors affecting pricing choice, pricing objectives, pricing strategy creation process, pricing strategy categories and the dangers arising while developing it.

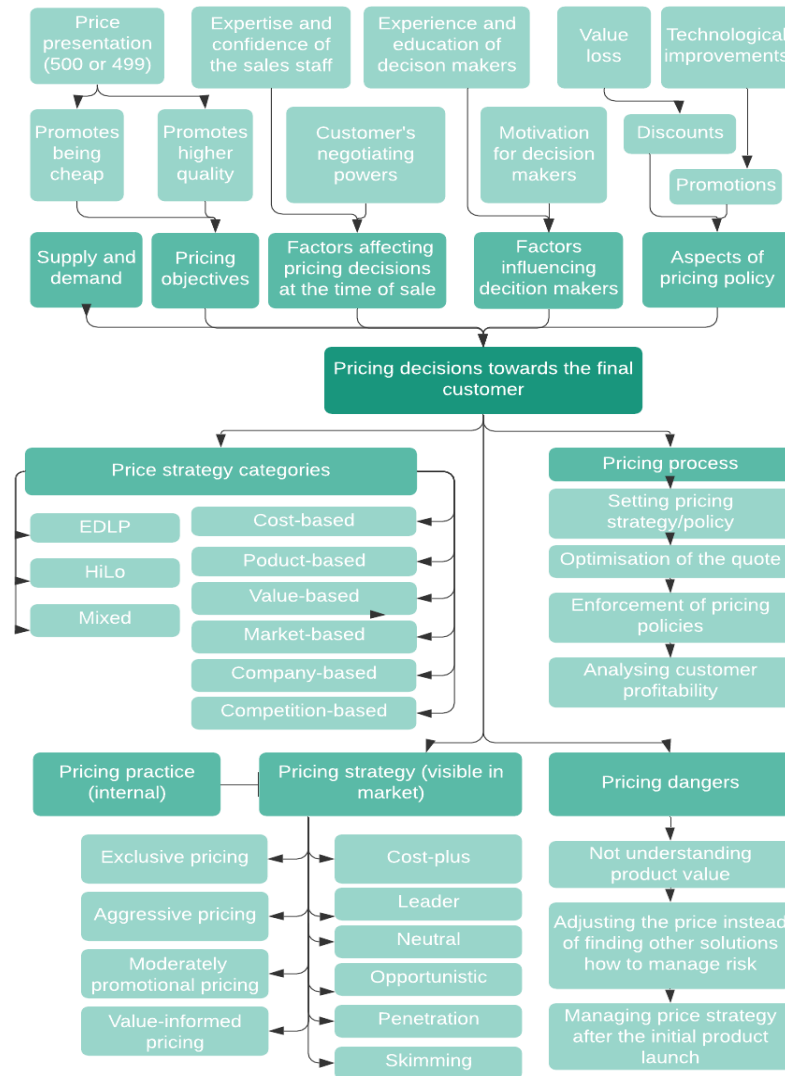


Fig. 7. Pricing decisions towards the final customer

For example, decision makers are under pressure to reach the targets - maintain set percentage of profit or fail and lose part of expected remuneration. It was also noticed in previous researches that decision makers often receive no trainings when being promoted. Furthermore, they often do not have managerial education degree but do have longer experience than other candidates to such position.

While performing theoretical analysis, the importance of transfer pricing methods was thoroughly investigated, and the two main aims of transfer pricing were distinguished: to optimise the overall profit of the multidivisional organisation and to evaluate the performance of each subunit. Transfer prices manipulation motives were also discussed (like enhanced market competitiveness), and negative tax evasion outcomes (like reduced local governments funds) were explained.

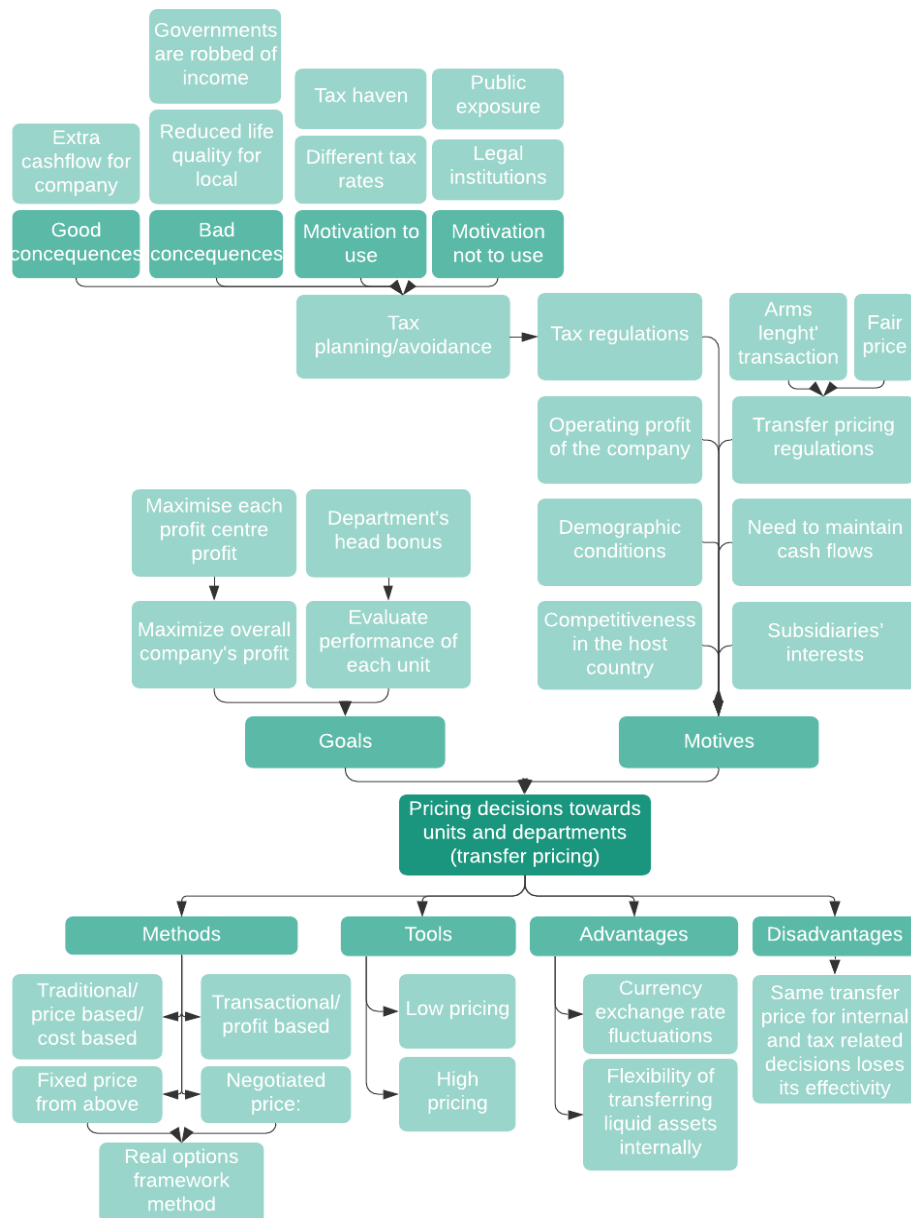


Fig. 8. Pricing decisions towards company units or departments - transfer pricing

The second half of theoretical analysis revealed that different authors often reach similar results in their research while determining the transfer pricing methods, just the names might slightly vary. Main categories of transfer pricing methods at the time when transfer prices were introduced to the world were market based and cost based. In recent years it is more common to divide them into price based and profit based. Some of authors make the method structure more detailed, decomposed into many subparts (as in Knowles and Mathur article), others usually distinguish two or three main categories. Moreover, transfer price can be negotiated or pre-set. If the transfer price is fixed and set by headquarters, it might not suit because the subsidiary is unique and there is not enough information to set a good price. If departments are allowed to negotiate prices themselves it might cause various conflicts. Therefore, there is a real options framework method developed which lets the departments and units negotiate themselves, but within certain guidelines and while fulfilling pre-set conditions. The methodology of several authors was compared versus OECD and IRS guidelines.

2.9. The peculiarities of management fee calculation

Company owners in order to reduce the company's taxable profit, transfer part of the income to those countries where the income tax rate is lower or even where there is no fee on profit at all. A way to do that is to charge a management fee or the fee for the ownership of a licence. This reallocation of expenses is used in the companies' group case when the holding company owns the brand or software and provides services to subsidiaries. However, when charging a fee for such services, there are a few things to keep in mind that tax administrators will pay a special attention to:

- when there are transactions between related parties,
- when those costs constitute a significant part of the company's total costs (Šidlauskas, 2019).

What kind of services can be considered as intra group services and be a base for management fee? According to OECD guidelines, it can belong to the four fields: administrative, technical, financial, or commercial service groups, for example, marketing, technical, legal, accounting, electronic data processing, employee relations, management consultation, labour negotiations, taxation services. Services can also be divided depending on whether it is easily accessed externally or if it is more often provided internally. When the list of services is broad, how can it be defined whether it is management expenses or not? It needs to be proved that those services contain planning, direction, and control functions (Przysuski, Lalapet, Swaneveld, Paul, 2004)

Management fee can be based on two parts: gross asset value (GAV) and net asset value (NAV). GAV consists of total current assets value within the analysed unit. NAV is calculated by deducting total liabilities from total assets, meaning the value of assets without its funding. Authors express that to measure NAV or GAV, managers need to rely on accounting data. Gross asset value can be calculated by summing market value of all assets, where NAV calculation is more complex and might include several ways. One of the ways is to use discounted future cash flows (Pattitoni, Petracci, Potì, Spisni, 2015). Compensation fees and performance are positively related. Next to the management fee there could be also be a performance fee which would depend on the performance of the unit. It is possible to use combination of certain fees. Pattitoni describes several of combinations and describes how they influence the management incentives versus company owners goals: if management fee is only market based, then both group interest matches and the best ratio of investment and debt is reached; if market based fee is combined with net assets value based fee, then goal is maximised only if there are no investments; if market based fee is combined with gross assets value method, the interests of both parties do not match (Pattitoni, Petracci, Potì, Spisni, 2015).

Other way rather than NAV and GAV to calculate management fee is to determine an hourly charge, if it is possible to evaluate how much time manager spent on supervising the company and his time spent is beneficial and worth to be charged. Further, it can also be project based. For this reason, the project needs to be well documented and services provided well specified. Last option is commission based. This calculation method is welcomed by auditors because it is easier to find comparable transactions. In order to choose the best way, it is essential to describe all parties' activities (TaxExperts SA, 2017).

In order to determine which base is the best choice, the disadvantages need to be evaluated too. For example, the performance fee could be calculated as share price growth, but for that reason the company needs to be listed. But it also might not be a very good tool, because share price can be influenced by many other factors in the market and thus not adequately evaluate management

performance. Therefore, it is better to choose and reach any previously agreed target. Besides that, there could be other types of fees: legal fees, publication fees and depository fees. Despite the fact that only marked based fees align the interests of both management and company owners, these previously mentioned disadvantages give the reason for calculating management fees based on NAV and GAV. Usage of GAV as the base of managerial fee motivates managers to increase the company's assets through borrowing, since there is a relation between fee structure and leverage (debt policy). For example, if total asset value is used as the base of fee distribution, then it might encourage for department managers to borrow more in order to increase the assets of the unit. NAV based fees is the best option to use considering the facts stated above (Pattitoni, Petracci, Potì, Spisni, 2015).

Moreover, the frequency of management fee calculation and re-evaluation should also be assessed. It is risky to set up a fixed yearly or monthly fee. However, if there's a need to issue or receive expenses monthly, fixed invoices for management services could be issued on a monthly basis and a report on the services actually provided or work performed could be prepared at the end of the year. That, of course, assuming that the company would keep records of the services performed and their volume and report those records to the customer at least once a year. This method assesses the services actually provided at the end of the year and adjusts the scope and value of the services provided by issuing credit invoices (Šidlauskas, 2019). When there are so many factors and details that owners of the company group need to take into consideration while determining the management fee, they might be tempted to choose to hire external management. However, units that are managed internally, perform better than externally managed units, because externally managed units might use leverage too much in order to reach set goals (Pattitoni, Petracci, Potì, Spisni, 2015)

In practice, there are many tax advisory firms and part of them provide consulting for transfer pricing. Their advice for those, who have never determined management fee before, is to start with thoroughly describing each company from the company group and then analysing their agreements and finding if there is any proof of the existence of intercompany transactions. Then, they should collect actual costs as the base and a relevant markup should be chosen (TaxExperts SA, 2017). There is also a methodology for understanding the essence of intercompany services and related fees, provided by the government. However, governmental explanations are often written in a complicated juridical way and require time and effort to convert it into regular terms and make it understandable. Furthermore, it often leaves some uncertainty if it was actually interpreted correctly. This applies for administrative and management fees too. Thus, a systematic and thorough overview would be highly appreciated by the taxpayers. It would ensure that the requirements of the tax authorities are met.

To sum up, the management fee calculation process consists of two main aspects: calculating fee base and distributing it between group companies. There are cases when the managerial fee is calculated to each company individually, based on the results received after thoroughly analysing the services provided. However, it requires a lot of resources and might not be an optimal choice. Thus, after the literature analysis provided in the part two, it can be stated that the correct fee distribution should be able to fulfil the two following goals:

- 1) Compliance with the tax authorities, i.e. ensuring that the management services charged are compliant with governmental guidelines and the arm length's transaction principle.
- 2) Ensuring that the managerial services expenses of the management company are distributed adequately and efficiently to the other related parties of the groups.

It is important to note that the model steps become more difficult to fulfil when the services provided involve more than one company of the group. The results can be used in the important stage of the establishing new subsidiary - when designing managerial contracts. Whether managerial expenses charged to the other company group units fulfil the first objective can be determined by performing the following steps as shown in the figure 10.

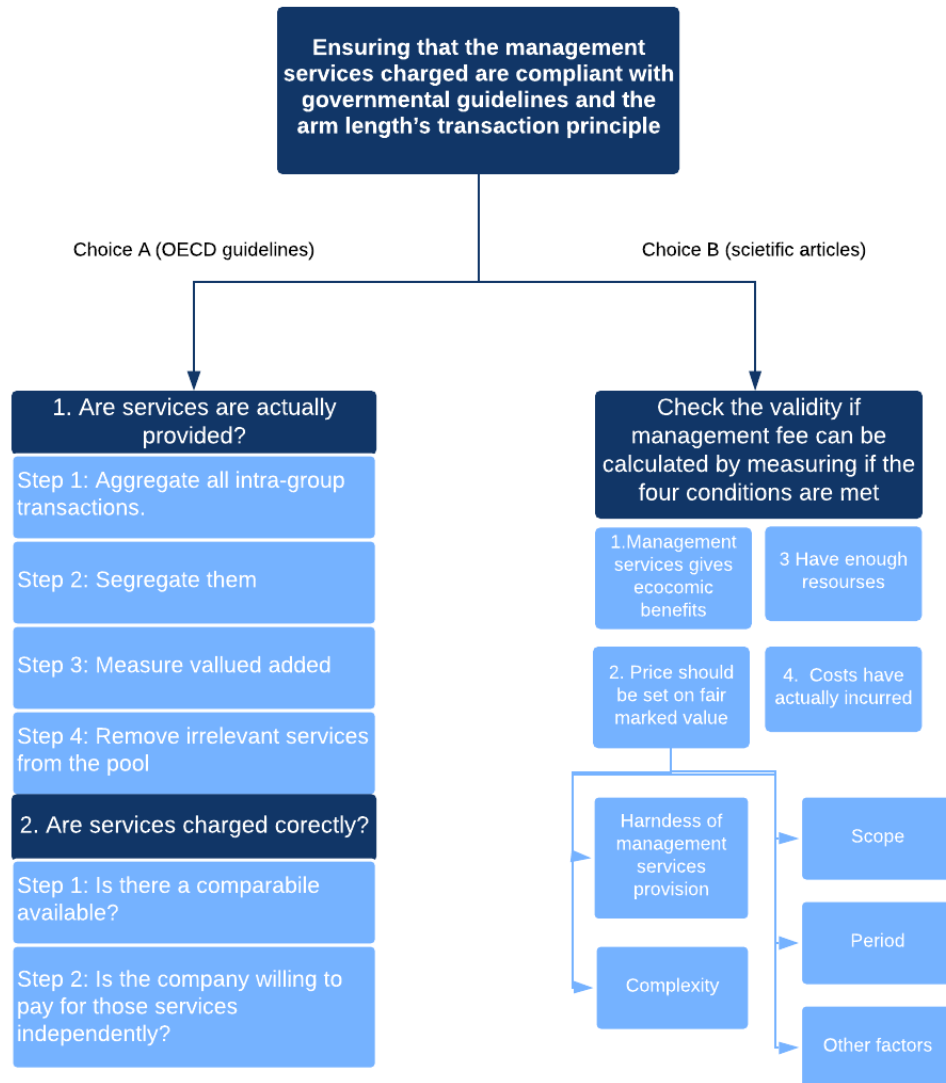


Fig. 9. Two choice method to ensure the management services compliance with governmental guidelines and the arm length's transaction principle

There are two options to reach it, and the first option consists of two questions that need to be evaluated. In order to answer the question whether the services are actually provided, all intra-group transactions need to be collected. Then, they need to be segregated and identified which of those transactions are relevant by measuring whether or not those transactions provide economic or commercial value to the group company. If it is not possible to measure economical value, then it needs to be checked whether the services can be charged according to the four following criteria. Services that cannot be recharged are described in the left side of the table 3.

Table 3. Criteria to measure whether services can be charged and whether safe harbour applies (Przysuski, Lalapet, Swaneveld, Paul, 2004)

Criteria to measure the beneficiality of the services charged	Criteria to measure whether the services are fundamental
Duplicative review or performance of activities already undertaken by a subsidiary	The renderer or the recipient is engaged in the trade or business of rendering similar services to one or more unrelated parties.
Periodic visitations and general review of a subsidiary's performance	The service provider renders services to one or more related parties as one of its "principal activities." (if the costs of the services rendered to related parties is less than 25 percent of the total costs and deductions of the service provider then the services rendered will not be considered a principal activity)
Complying with reporting requirements or other legal requirements of the parent shareholder	The service provider is "peculiarly capable" of rendering the services and such services are a principal element in the operations of the recipient.
Financing or refinancing the parent's ownership participation in the subsidiary	The recipient of the intercompany service has received a "substantial amount" of services from one or more related parties. (Services are considered substantial in amount if the costs and deductions associated with services rendered of the service provider in a particular tax year exceed 25 percent of the recipients' total costs and deductions during its tax year.)

Furthermore, a safe harbour option is provided - when services are not fundamental, then arm's length condition is satisfied if the fee charged is equal to the costs incurred by the parent/managing company. In order to know if the safe harbour applies and if the services are not fundamental, it is needed that the services would reject the four criteria as it is shown in the Table 3. right side. Finally, only those transactions that are relevant should be left, non-beneficial services which could not be charged should be removed from the management fee expenses pool. Second question, whether the fee for such services meet the arm's length transaction requirements, can be answered by identifying if the company from a company group would be feeling the need to receive such services or willing to pay for such service externally. However, as it was determined in the literature analysis, it is hard to find relevant comparables in reality.

Second choice is to check whether chargeable services fulfil four different conditions provided by A. Šidlauskas (Šidlauskas, 2019). Since the agreements are not constituted on strict financial terms and thus the parent company charges the same amount each month or yearly without performing the evaluation of the work actually required, the management fee calculation methods might become tricky. There are four conditions that efficient management fee should meet:

1. Such costs must be similar to regular operations of the subsidiary, i.e. management services must be related to the nature of the subsidiary's activities and add value or economic benefit to the subsidiary,
2. The price of the services must be based on the fair market value. It should be determined by the period of service provision, its scope, the difficulties level of management services, complexity and other factors. Setting a fixed monthly or annual amount of management fee in the management agreement is a risky decision from a corporate perspective.

3. Management company providing such services must have enough employees with appropriate qualifications and other resources,
4. The costs must be actually incurred, i.e. the parent company must have actually provided such services (Šidlauskas, 2019).

After the methods how to reach the first goal were described in the paragraphs above, due to lack of available information and the sensitivity of managers disclosing confidential data it was decided to test only the fulfilment of second goal in practical research part. Therefore, the methods how to reach the second goal are described below in the research methodology section.

3. The construction of the management fee distribution model

Transfer pricing decisions can be made between the companies of the company group and inside the company departments. After evaluating available material, it was decided to further analyse the transfer pricing and management fee distribution between the company groups. Therefore, this section presents the developed model which would help to decide how the management fee should be distributed. Model was constructed based on the various cases analyse of the management fee distribution in theory. Then, the next step was to take the financial data of one company group and investigate how their management fee is distributed in practice. After that, the companies' results have been modified and the management fee have been redistributed according to the model steps and options. The influence of the variable choice on the financial results of those companies has been analysed. To sum up, the model purpose is to prove the significance of management fee distribution between company's groups units by providing the possible variables and step by step structure how it can be tested. The model steps are presented in the figure 10.

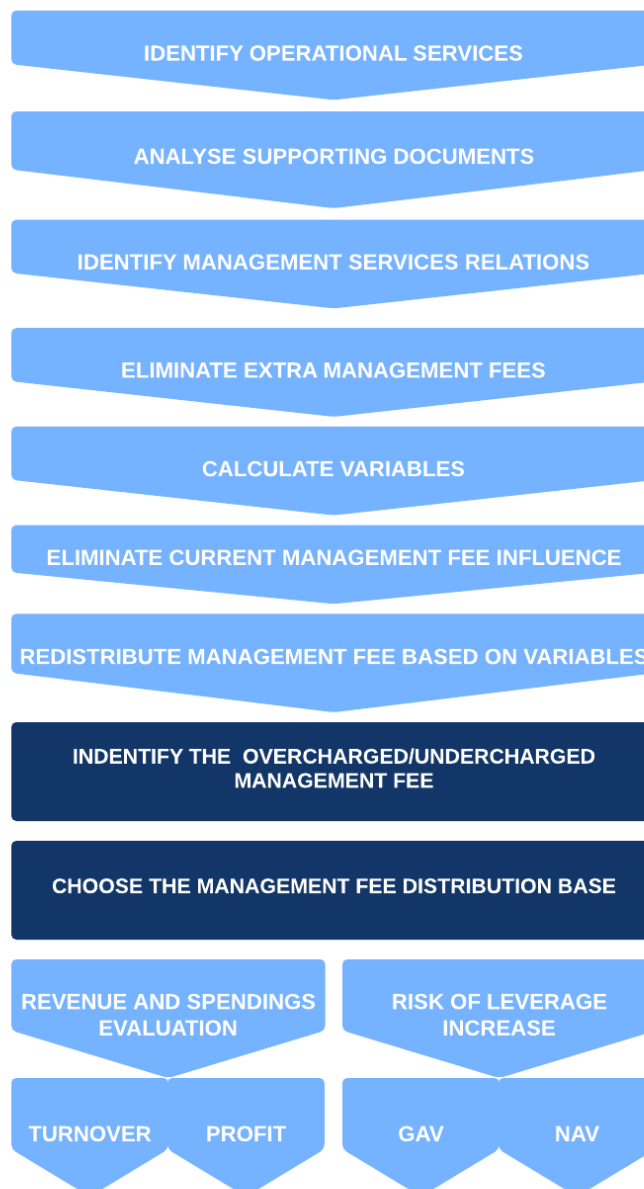


Fig. 10. Management fee distribution model steps

These model steps are further explained in the following list:

1. Describing what kind of services each company provides. It is essential to understand the companies' activities according to transfer pricing literature and the information collected might later help to analyse the results.
2. Analyse the available supporting documents related with the administrative and managerial services and determine which company have charged management services to which company group unit. It is advised to have visual distribution to have a better understanding. In this model's case, a flowchart was used.
3. Calculate how much of the management fee was charged to each company. If some companies recharged the fee to its subunits, then compare it with the income from management fee received and calculate the difference.
4. Compare the total management income of the top company with the administration expenses of the company group's units paid to the related parties. It would help to identify if there are lower level management fees charged at the company sub-units level. Eliminate the sub-group internal transactions which do not belong to the main management fee distribution pool consisted of the top companies' expenses.
5. Collect the information of each unit's turnover, profit, employee number, gross and net assets value.
6. Eliminate management fee influence from actual profit of each unit.
7. Redistribute the existing management fee to each unit based on the proportion of its turnover, profit, employee number, gross and net asset value compared to the total value of the whole group.
8. Identify which companies have been overcharged or undercharged for the and make conclusions.

Also, the model might advise which of the fee calculation base method might be the best to receive the wanted result, but it should not be used to shift profits to other country with the lower tax rate if the fee calculation base choice means that the management fee charged is not equivalent to the actual benefit of the company received. In order to decide which distribution base to choose and how to find an optimal compensation scheme, the following conditions can be considered:

- Deciding if the executives and board members are willing to take the risk of leverage increase. If yes, then the gross asset value can be chosen, if not, then the net asset value should be chosen.
- Deciding if the executives and board members want to evaluate management performance based only on the revenue or on the spending too. If it is possible to eliminate management fee from the total profit, it is better to choose total profit over turnover because it also evaluates the company's spending choices.

Finally, it might be beneficial to decide the frequency of the management fee be recalculation and redistribution. To do that, when performing the practical analysis of the chosen company group the fee recalculation frequency was also briefly described. The description might help to answer the additional questions, such as what should be the correct timing for planning the management fee, whether the company group management is planning the management fee one year in advance or also re-adjusting it every quarter.

4. Management fee distribution model application results

Research advances with testing some parts of the model with practical data. In order to test the relevance of the model it was decided to apply its calculation methods to a chosen companies group data.

4.1. The analysed company group choice and the analysis of its units operations

The company chosen had to fulfil three requirements - it needed to be a company group with several subsidiaries. It needed to have a headquarters which would provide managerial services to other group companies and therefore calculate the managerial fee. The company chosen was a company group in Denmark, where parent company had different level of ownership in at least 18 other companies in Denmark and 10 companies in Poland. Since it was known that some of the company group companies are situated in several countries with different tax rate, i.e. that in Denmark corporate income tax is 22%, whereas in Poland corporate income tax is 19%. It raises an opportunity to shift profits from one country to another. Thus, bearing in mind the availability of data and the specifications of the company group it became a great example for analysis and practical testing of the company. For confidentiality reasons, the company group is going to be called the Company Group X.

First step was to analyse the company's structure and to understand which company provides managerial services to which company. The relationships between companies and management services flow is shown in the chart x.

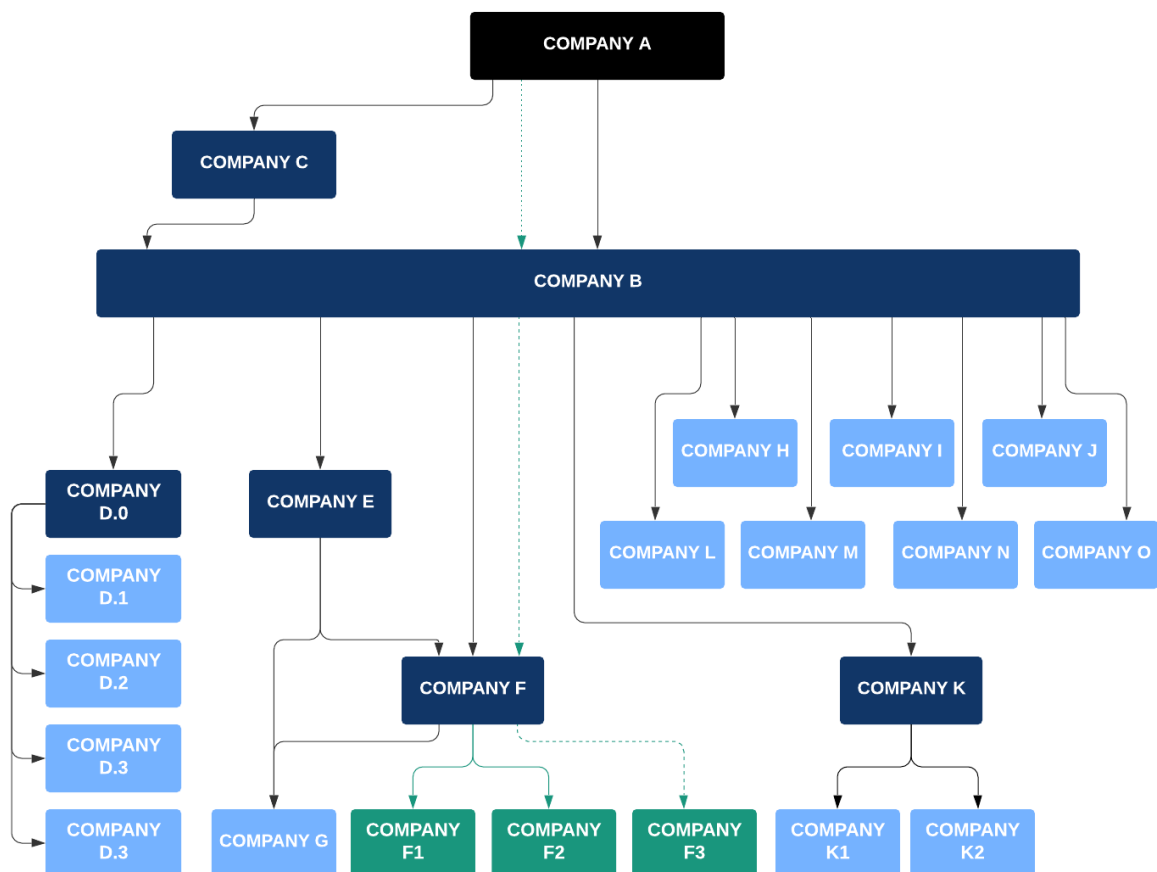


Fig. 11. The managerial relationships in the Company Group X

The Company Group X consists of twenty-four units. The company A is the main company and can be called the headquarters of the Company Group X. The flowchart shows how and to which companies Company A's managerial expenses are distributed. It was noticed that there is a main expenses pool distribution formation and there are few smaller company group formations. The smaller group formation consists of Company D.0 and its subsidiaries Companies D.1, D.2, D.3 and D.4. Company D.0. Is compensating fixed compensation rate to Company B, but also is being compensated by its subsidiaries, although their fee calculation method is different. The companies and relationships which are marked in green colour are presenting additional managerial services flows which are not included in the major fee distribution scheme analysed in the next parts of the research. later. Company F3 is compensating managerial expenses through Company F and B to Company A. Company F has sold companies F1 and F2 and do not have any ownership rights left. But it signed management agreements with companies F1 and F2 and is continuing to provide administrative services. It is also not included in the main pool. Companies H, I and J are individual companies which are paying management fee to company B but no further managerial relationships with other companies were noticed. Companies L, M, N and O management relationships are similar, except they are holding companies and do not maintain active operations.

As it was written in methodology and confirmed by tax experts, it is very important to understand the business type and its specialties of each company group unit. Therefore, the next step is to describe each analysed company's activity. In the table 4 below, there is a brief summary of business operations, employee number and turnover.

Table 4. Description of activity, number of employees and turnover of each group unit.

Company	Activity description	Employees	Turnover, €	Profit after taxes, €
Company A	Conducting investments in equity and other investments.	2	299.374	178.842
Company B	Cultivation of trees and other forestry activities	44	1.255.917	34.717
Company C	The purpose of the company is energy production and trading	2	228.279	- 525.534
Company D.0 Company D.1 Company D.2 Company D.3 Company D.4	The company's purpose is the development and operation of cattle breeding and slaughter, including selling slaughtered cattle for further processing, administration and operation of cattle slaughtering plants.	15	773.853 252.264 384.348 497.260 649.095	599.082 -149.005 -48.692 126.453 166.408
Company E	The company's purpose is investment, trade and other related activities	1	257.922	4.070.801

Company F.0	The purpose of the company is construction and rental of real estate. The company's purpose is also to lend capital with collateral in real estate on market conditions both at home and abroad, and to make financial transactions to care for and secure the lent assets.	1	1.840.959	1.297.706
Company G	The purpose of the company is to acquire, own and develop real estate, including farming and forestry, and to operate as a civil airfield and other related business. Also, to lend capital with collateral in real estate both at home and abroad, and to make financial transactions to care for and secure the lent assets.	1	757.196	720.847
Company H	The company's purpose is investment business.	0	35.694	114.871
Company I	The purpose of the company is the purchase, sale and leasing of real estate, the development of wind turbine projects, the purchase, sale, rental and operation of wind turbines as well as investment and trade.	3	254.618	- 26.042
Company J	The company's purpose is to develop and operate a windmill park	0	2.782.994	1.204.392
Company L	The purpose of the company is the purchase, sale and leasing of real estate, as well as investment, trade and other related business, including investment in other companies with the aforementioned company.	0	10.802	5.138
Company M	The purpose of the company is the purchase, sale and leasing of real estate, development of wind turbine projects as well as investment in other companies, trade.	0	42.500	6.576.773
Company N	The purpose of the company is to own shares in underlying subsidiaries and associated companies, as well as related business and investment activities in general.	0	15.768	5.018.301
Company O	The purpose of the company is to own shares in underlying subsidiaries and associated companies, as well as related business and investment activities in general.	0	13.982	794.909
Company F1	The company's sole purpose is to develop and operate a solar cell power plant park. .	0	8.665	3.192
Company F2	The purpose of the company is to act as a holding company through the holding of ownership interests in other companies that conduct electricity production based on solar energy.	0	11.285	1.198
Company F3	The company's purpose is to construct and operate photovoltaic plants on leased land.	0	2.682	625
Company K	The company's purpose is to develop and operate a wind farm as well as construct and operate photovoltaic plants on leased land.	1	17.857	-391.002

Company K1	The company's purpose is to construct and operate photovoltaic plants on leased land	0	29.092	-23.157
Company K2	The company's purpose is to construct and operate photovoltaic systems on leased land.	0	29.004	-23.077

To sum up, all activities are related to renewable energy, investments, farming and agriculture. It is worth to mention that most of the smaller companies do not have employees, but there are two human resources centres. The company B has employed the most of employees - 44 in total and this might be the main reason for management fee flow downwards from this company because its employees provide services to other companies from the groups. Then, there are 15 employees employed in company D.0 and it is another human resource centre which provides services to companies D.1, D.2, D.3 and D.4. In 2019 the highest turnover was reached in the companies J, F.0 and B, and the companies F.1, F.2, F.3 and L were with the lowest turnover. Turnover was calculated as revenue generated by direct business operations, therefore it did not include management income or other activity, for example sale of assets. Then, the profit after tax was evaluated. The most profitable companies were E, N and M. The least profitable companies were C, K and D1. The next step is to evaluate how the profitability of the units would change after changing the way the management fee is being distributed.

After analysing the company group structure and reviewing each company individually, the next step was to gather data from each accounting companies' financial statement and aggregate it into one matrix which would help to understand what kind of management/administration fees were provided. After evaluating and reviewing invoices and analysing profit and loss statement lines, the following table was conducted. It was made by performing the investigation of relations between companies with limited data. The table is showing how the management fee is split between companies, showing how much each company was affected by managerial fee, especially good explaining to which company it is income and to which it is expenses.

Table 5. Group X management agreement fees distribution 2019.

Management fee 2019, € part 1		Management companies			First subgroup					Holding companies	
		Company A	Company B	Company C	Company D.0	Company D.1	Company D.2	Company D.3	Company D.4	Company L	Company M
MANAGING INCOME received from:	Company F.0	0	62.857	0	0	0	0	0	0	0	0
	Company B	235.714	0	31.429	0	0	0	0	0	0	0
	Company K.0	0	6.286	0	0	0	0	0	0	0	0
	Company group D	0	39.286	0	0	0	0	0	0	0	0
	Companies L, M, N, O	0	6.286	0	0	0	0	0	0	0	0
	Company J	0	11.000	0	0	0	0	0	0	0	0
	Company C	94.286	0	0	0	0	0	0	0	0	0
	Company E	0	31.429	0	0	0	0	0	0	0	0
	Company H	0	3.143	0	0	0	0	0	0	0	0
	Company I	0	4.714	0	0	0	0	0	0	0	0
Company G	0	0	0	0	0	0	0	0	0	0	
MANAGING EXPENSES paid to:	Company B	0	0	0	-7.857	-7.857	-7.857	-7.857	-7.857	-1.571	-1.571
	Company C	0	-31.429	0	0	0	0	0	0	0	0
	Company F.0	0	0	0	0	0	0	0	0	0	0
	Company E	0	0	0	0	0	0	0	0	0	0
	Company A	0	-235.714	-94.286	0	0	0	0	0	0	0

Management fee 2019, € part 2		Single companies			Other subgroups				Holding companies	
		Company H	Company I	Company J	Company E	Company F.0	Company G	Company K.0	Company N	Company O
MANAGING INCOME received from:	Company F.0	0	0	0	9.429	0	0	0	0	0
	Company B	0	0	0	0	0	0	0	0	0
	Company K.0	0	0	0	0	0	0	0	0	0
	Company group D	0	0	0	0	0	0	0	0	0
	Companies L, M, N, O	0	0	0	0	0	0	0	0	0
	Company J	0	0	0	0	0	0	0	0	0
	Company C	0	0	0	0	0	0	0	0	0
	Company E	0	0	0	0	0	0	0	0	0
	Company H	0	0	0	0	0	0	0	0	0
	Company I	0	0	0	0	0	0	0	0	0
Company G	0	0	0	3.143	7.857	0	0	0	0	
MANAGING EXPENSES paid to:	Company B	-3.143	-4.714	-11.000	-31.429	-62.857	0	-6.286	-1.571	-1.571
	Company C	0	0	0	0	0	0	0	0	0
	Company F.0	0	0	0	0	0	-7.857	0		
	Company E	0	0	0	0	-9.429	-3.143	0	0	0
	Company A	0	0	0	0	0	0	0	0	0

This table shown contains the newest numbers of 2019. The data was gathered also for two more additional years, 2018 and 2017, in order to compare how the fee calculation has changed in the total period of the three years.

The following tendencies were noticed. The total pool of the 330.000 EUR was split between the companies in several levels. In order to understand the top management fee distribution influence, sub-group internal management transactions were eliminated from the main scheme. From the issue date on invoice it was determined that all fees were determined at the beginning of the year. It was split into equal parts and was issued monthly or quarterly. It was probably because issuing a fee quarterly helped to distribute the fee more evenly in the companies who had different financial years. According to the literature overview, it is risky to set up a fixed yearly fee, therefore group management fee distribution should be reconsidered. On the invoice, it should be stated how those management fees are calculated, but this requirement is not fulfilled in the analysed company case. Then, for the group D it was recalculated later by the auditors. Company F.0 had fee consisting of both fixed predetermined part which is seen in the table and also variable fee part which was calculated based on a certain percentage of revenue.

After comparing how the fee changed between years it was noticed that some of the fees were not recalculated when the new financial year began, it was only increased mathematically to cover for the inflation and interest rate increase. For example, companies L, M, N and O fees have been raised by 10% in 2019 and from 2017 to 2018 they stayed exactly the same. Similar situation is with the company K, but after checking management fee income and expenses in the past several years it was noticed that companies K1 and K2 used to pay management fee to company K and then company K would pay it further to company B. But in 2019 the management fees from companies K1 and K2 were eliminated from the main management fee distribution scheme, even though company K continued to pay the same management fee. Also, it was noticed that during the year some of the companies were sold and were removed from the group in the ownership terms, but the headquarters has been continuing to provide managerial services to the sold companies.

4.2. The redistribution of management fee between all company units

After understanding the group structure and what kind of activities each unit provides and how it operates, the deeper analysis began. The chosen group of companies was analysed by its choice to distribute the management fees between companies. It was tested how the company's profit would change if the management fee would be distributed based on NAV, GAV, employee number, turnover and profit. It would help to determine the management fee influence on the companies' profit.

The process and results are described in the following paragraph. The financial statements of twenty-four companies have been analysed and the information relevant for the research have been collected. Then, the profit without administration fee effect was calculated by removing administration income received and adding management fee expenses paid. It was also decided to exclude only the main pool analyses and leave the additional income fee from sub-group management fees in companies D and F. The net profit before taxes was received. After that, it was decided to redistribute management fee and recalculate profit based on five management fee distribution bases: employee number, turnover, profit before taxes, gross asset value and net assets value. Also, in the further calculations when redistributing the management fee, company A was excluded.

Table 6. The proposed bases for the Group X management agreement fee distribution

No	Company	Base 1	Base 2	Base 3	Base 4	Base 5
		Turnover	Profit before taxes eliminating management fee effect	Employee s number	GAV	NAV
1	Company A	299.374	-151.158	2	883.468	196.807
2	Company B	1.255.917	146.657	44	1.136.565	373.451
3	Company C	228.279	-551.757	2	508.414	-663.400
4	Company D.0	773.853	749.070	15	5.478.257	-82.922
5	Company D.1	252.264	-183.176	0	6.224.489	-286.355
6	Company D.2	384.348	-54.561	0	6.478.408	-194.214
7	Company D.3	497.260	169.976	0	6.775.043	98.563
8	Company D.4	649.095	221.200	0	6.390.755	67.033
9	Company E	257.922	4.034.454	1	107.535.500	91.821.520
10	Company F.0	1.840.959	1.728.267	1	24.837.180	11.345.469
11	Company G	757.196	845.770	1	11.898.056	3.036.501
12	Company H	35.694	146.405	0	193.063	170.362
13	Company I	254.618	-28.672	3	398.709	-4.660.656
14	Company J	2.782.994	1.555.091	0	17.322.797	1.933.517

15	Company L	10.802	7.823	0	184.444	95.444
16	Company M	42.500	6.578.345	0	10.844.527	7.410.010
17	Company N	15.768	5.054.903	0	7.823.051	7.776.331
18	Company O	13.982	815.660	0	5.461.480	4.038.280
19	Company F1	8.665	4.125	0	67.042	67.042
20	Company F2	11.285	2.090	0	119.151	2.632
21	Company F3	2.682	801	0	27.176	967
22	Company K	17.857	-366.722	1	6.213.924	2.333.470
23	Company K1	29.092	-29.688	0	8.164	-26.075
24	Company K2	29.004	-29.586	0	7.934	-25.882

The first base of the management fee distribution was the turnover. Each unit's 2019 turnover was summed and the proportion of total turnover was calculated for every unit. Then the total management fee pool was distributed according to that proportion, meaning that the companies with highest turnover would pay the biggest part of the management fee and the companies with the lowest turnover would pay the lowest fee. The second base of the management fee distribution was the profit without taxes after eliminating management fee effect. Calculation method was similar as in the first case, but when the proportion was calculated, an assumption was made that the company with the worst performance in the group should not pay management fees. Thus, the company's C loss was marked as 0 and other losses converted accordingly in order to distribute the management fee proportionally.

Table 7. Management fee distribution based on turnover

Base 1: Turnover			
No	Company	Actual profit with management fee effect	Profit after adding redistributed fee
1	Company A	0	0
2	Company B	44.514	105.833
3	Company C	-614.614	-559.178
4	Company D.0	741.213	723.915
5	Company D.1	-191.033	-191.376
6	Company D.2	-62.418	-67.055
7	Company D.3	162.119	153.813
8	Company D.4	213.343	200.101
9	Company E	4.015.597	4.026.070
10	Company F.0	1.663.838	1.668.425
11	Company G	834.770	821.157

12	Company H	143.262	145.245
13	Company I	-33.386	-36.949
14	Company J	1.544.091	1.464.627
15	Company L	6.251	7.472
16	Company M	6.576.773	6.576.963
17	Company N	5.053.331	5.054.390
18	Company O	814.089	815.206
19	Company F1	4.125	3.843
20	Company F2	2.090	1.723
21	Company F3	801	714
22	Company K	-373.008	-367.303
23	Company K1	-29.688	-30.634
24	Company K2	-29.586	-30.529

Results are provided in the tables 7 and 8 below. The highest profit increase when the fee was distributed based on turnover was in the companies B, L and C and companies I, F3, F2 experienced the biggest profit decrease. Company B has increased its result from 44.514 € to 105.83 €, i.e. 138% and it was the highest increase of the result between twenty-three companies when the fee was recalculated based on turnover. It was also noticed that companies J and F.3. have both decreased their results (respectively by 5% and 11%) after the management fee was redistributed even though company J had the highest turnover and company F.3 had the lowest turnover. Moreover, only company F.2 has experienced bigger decrease in profit than the company F.2 (compared to their profit before distribution). Furthermore, when the management fee was redistributed based on profit, as it is shown in the table 8, it was noticed that the highest profitability increase was reached in the companies B, C and D.2. Company's B profit increased by 95.000 €, company's C and D.0 losses decreased by 62.857 € and 2.960 € respectively. The highest decrease was noticed in companies F3, F2 and F1. These companies' performance was average compared to the other companies in the group, but after redistributing the fee their profit turned into loss. Finally, results showed that the profit of the three companies that had highest profit and showed best performance, i.e. companies M and N, had barely felt any impact – around 1% difference in profit.

Table 8. Management fee distribution based on profit

Base 2: Profit			
No	Company	Actual profit with management fee effect	Profit after adding redistributed fee
1	Company A		
2	Company B	44.514	139.779
3	Company C	-614.614	-551.757
4	Company D.0	741.213	736.259
5	Company D.1	-191.033	-186.806

6	Company D.2	-62.418	-59.458
7	Company D.3	162.119	162.868
8	Company D.4	213.343	213.588
9	Company E	4.015.597	3.989.286
10	Company F.0	1.663.838	1.705.812
11	Company G	834.770	832.006
12	Company H	143.262	139.529
13	Company I	-33.386	-33.824
14	Company J	1.544.091	1.534.341
15	Company L	6.251	2.312
16	Company M	6.576.773	6.508.122
17	Company N	5.053.331	4.999.684
18	Company O	814.089	802.193
19	Company F1	4.125	-1.350
20	Company F2	2.090	-3.364
21	Company F3	801	-4.641
22	Company K	-373.008	-368.545
23	Company K1	-29.688	-34.830
24	Company K2	-29.586	-34.728

When distributing fee based on the third option for the fee distribution base employee number, assumption was made that the companies who had more employees needed less management help and those companies which had less or no employees, needed more management help. Since the employee base mostly consisted of two categories - those who had employees and those who did not, it was decided to evaluate the lack of employees as the highest need for managerial services. In order to determine how many employees were lacking, it was decided to compare it with the optimal number of employees which was determined to be equal to 46 employees. The number was calculated by summing the company with most employees with the employees from the top company that has been receiving management fee income and which had 2 employees. The decision was made based on the fact that the company having most employees still needed management help from the company A.

Then it was calculated how many employees each unit was lacking in order not to receive any management help. After making the assumption that the total lack of employees was equal to the total management fee, it was distributed by proportion. Then the new profit was calculated for each unit with the re-distributed management fee and compared with the actual profit. As it is shown in the table 9, Company B, who had 15 employees, gained the biggest difference and its profit has increased two times. Company I who had 3 employees has received 28% negative impact on its result and went from 33.386 € loss to 43.005 € loss. Company's F3 profit received the biggest impact and turned negative.

Table 9. Management fee distribution based on employee number

Base 3: Employee number			
No	Company	Actual profit with management fee effect	Profit after adding redistributed fee
1	Company A		
2	Company B	44.514	145.990
3	Company C	-614.614	-566.424
4	Company D.0	741.213	738.737
5	Company D.1	-191.033	-198.509
6	Company D.2	-62.418	-69.894
7	Company D.3	162.119	154.643
8	Company D.4	213.343	205.867
9	Company E	4.015.597	4.019.454
10	Company F.0	1.663.838	1.713.267
11	Company G	834.770	830.770
12	Company H	143.262	131.072
13	Company I	-33.386	-43.005
14	Company J	1.544.091	1.539.757
15	Company L	6.251	-7.511
16	Company M	6.576.773	6.563.011
17	Company N	5.053.331	5.039.569
18	Company O	814.089	800.327
19	Company F1	4.125	-11.208
20	Company F2	2.090	-13.243
21	Company F3	801	-14.532
22	Company K	-373.008	-381.722
23	Company K1	-29.688	-45.022
24	Company K2	-29.586	-44.919

Then, the management fee was recalculated based on the gross asset value. The total value of GAV was summed and the proportion was calculated of how much of the total assets pool each unit contained. Then, the management fee was distributed according to that proportion - the companies with the biggest asset value had to pay the biggest amount of management fee. After that, the management fee was recalculated based on net assets value. The proportion calculation method was the same as distributing management fee based on profit - it was assumed that the company with the lowest net asset value should not pay the management fee, i.e. company I. The results are shown in

the table 10 below. The highest profitability increase when the fee was distributed based on GAV was noticed in the companies B, L and I and when the fee distribution was based on NAV it was companies B, I and C. The biggest decrease in profit was noticed in companies E, F3, F when the fee was based on GAV. When the fee was based on NAV, the highest decrease in profit was noticed in companies F1, F2 and F3.

Table 10. Management fee distribution based on GAV

Base 4: GAV			
No	Company	Actual profit with management fee effect	Profit after adding redistributed fee
1	Company A		
2	Company B	44.514	144.997
3	Company C	-614.614	-552.500
4	Company D.0	741.213	741.069
5	Company D.1	-191.033	-192.267
6	Company D.2	-62.418	-64.024
7	Company D.3	162.119	160.081
8	Company D.4	213.343	211.866
9	Company E	4.015.597	3.877.388
10	Company F.0	1.663.838	1.691.990
11	Company G	834.770	828.392
12	Company H	143.262	146.123
13	Company I	-33.386	-29.254
14	Company J	1.544.091	1.529.789
15	Company L	6.251	7.553
16	Company M	6.576.773	6.562.505
17	Company N	5.053.331	5.043.476
18	Company O	814.089	807.683
19	Company F1	4.125	4.027
20	Company F2	2.090	1.916
21	Company F3	801	762
22	Company K	-373.008	-375.798
23	Company K1	-29.688	-29.700
24	Company K2	-29.586	-29.597

When preparing for the research it was presumed that it is not fair to distribute the fee according to assets in the group where units participate in different activities. It was due to the expectation that the companies who own a lot of assets, for example real estate rental companies, gain huge disadvantage and receive a great portion of management fee even though the management services provided might not be that beneficial compared to other types of operations. However, research results proved that

company E who had the highest gross assets value due to investments, after redistributing the fee based on gross asset value has decreased its profit by 138.209 € which resulted in 3% decrease. Company F.0, who was holding second highest value of assets which mostly consisted of real estate, has received 2% increase in profit. Whereas the expectation that the company's I result would increase since the company would not receive management fee due to low net asset value was confirmed by the research result: after revaluating results based on NAV, company's I profit increased by 14% and was second highest increase between all companies.

Table 11. Management fee distribution based on NAV.

Base 5: NAV			
No	Company	Actual profit with management fee effect	Profit after adding redistributed fee
1	Company A		
2	Company B	44.514	139.491
3	Company C	-614.614	-557.447
4	Company D.0	741.213	742.554
5	Company D.1	-191.033	-189.402
6	Company D.2	-62.418	-60.919
7	Company D.3	162.119	163.202
8	Company D.4	213.343	214.471
9	Company E	4.015.597	3.897.114
10	Company F.0	1.663.838	1.705.483
11	Company G	834.770	834.813
12	Company H	143.262	139.528
13	Company I	-33.386	-28.672
14	Company J	1.544.091	1.545.704
15	Company L	6.251	1.052
16	Company M	6.576.773	6.561.162
17	Company N	5.053.331	5.037.199
18	Company O	814.089	803.277
19	Company F1	4.125	-2.605
20	Company F2	2.090	-4.548
21	Company F3	801	-5.834
22	Company K	-373.008	-376.678
23	Company K1	-29.688	-36.286
24	Company K2	-29.586	-36.183

Finally, the results of all evaluations were calculated in percentage of profit change and provided in the table 12 below. In the table, it shown what was the difference in profit after recalculating profit according to each management fee calculation base. Top three companies with the highest profit

increase in each case were marked in blue, and the top companies with the biggest profit decrease were marked in yellow. After evaluating profitability change in all five cases, it was found out that Company B has been charged with the management fee which was too high and company's profit increased twice almost every time the fee was recalculated. It was interesting to see how the fee recalculation based on profit and turnover could give opposite results, for example in company's I case, fee distribution based on turnover decreased the profit by -10,7%, but fee distribution based on profitability, increased the annual result by 15,5%. Whereas the companies' F2 and F3 position did not change much, their profit in all five cases decreased in quite significant way compared to the other companies and thus it can be stated that these companies were receiving the management fee which was too low.

Table 12. Group X units' profitability change after redistributing management fee based on different distribution bases.

No	Company	Actual profit before taxes	Profit change if the management fee is recalculated based on:				
			Turnover	Profit	Employee	GAV	NAV
1	Company A	N/A	N/A	N/A	N/A	N/A	N/A
2	Company B	44.514	137,7%	214,0%	228,0%	225,7%	213,4%
3	Company C	-614.614	9,0%	10,2%	7,8%	10,1%	9,3%
4	Company D.0	741.213	-2,3%	-0,7%	-0,3%	0,0%	0,2%
5	Company D.1	-191.033	-0,2%	2,2%	-3,9%	-0,6%	0,9%
6	Company D.2	-62.418	-7,4%	4,7%	-12,0%	-2,6%	2,4%
7	Company D.3	162.119	-5,1%	0,5%	-4,6%	-1,3%	0,7%
8	Company D.4	213.343	-6,2%	0,1%	-3,5%	-0,7%	0,5%
9	Company E	4.015.597	0,3%	-0,7%	0,1%	-3,4%	-3,0%
10	Company F.0	1.663.838	0,3%	2,5%	3,0%	1,7%	2,5%
11	Company G	834.770	-1,6%	-0,3%	-0,5%	-0,8%	0,0%
12	Company H	143.262	1,4%	-2,6%	-8,5%	2,0%	-2,6%
13	Company I	-33.386	-10,7%	-1,3%	-28,8%	12,4%	14,1%
14	Company J	1.544.091	-5,1%	-0,6%	-0,3%	-0,9%	0,1%
15	Company L	6.251	19,5%	-63,0%	-220,1%	20,8%	-83,2%
16	Company M	6.576.773	0,0%	-1,0%	-0,2%	-0,2%	-0,2%
17	Company N	5.053.331	0,0%	-1,1%	-0,3%	-0,2%	-0,3%
18	Company O	814.089	0,1%	-1,5%	-1,7%	-0,8%	-1,3%
19	Company F1	4.125	-6,8%	-132,7%	-371,7%	-2,4%	-63,2%
20	Company F2	2.090	-17,5%	-261,0%	-733,6%	-8,3%	-17,6%
21	Company F3	801	-10,9%	-679,2%	-1913,6%	-5,0%	-28,1%
22	Company K	-373.008	1,5%	1,2%	-2,3%	-0,7%	-1,0%
23	Company K1	-29.688	-3,2%	-17,3%	-51,6%	0,0%	-22,2%
24	Company K2	-29.586	-3,2%	-17,4%	-51,8%	0,0%	-22,3%

Even though it was expected that the company E would experience a significant decrease in profit since it has a very high NAV value compared with other group units, its profitability decreased only by 3% compared to company F3 which profitability decreased eight times. But when the fee was redistributed based on GAV, company E was between the top 3 companies with highest profit decrease, even though the difference between company E's GAV was less contrastive compared with NAV. The management fee charged for the companies F2 and F3 were probably too low, since almost in all cases when it was redistributed, it gave the biggest decrease in profits, sometimes resulting in a decrease of eight or even nineteen times. Finally, it was noticed that the three best and worst performing companies had kept their position when the results were sorted from largest to smallest. The placement had worried more between the companies which results were closed to the average.

4.3. The redistribution of management fee between sub-group units

The company group X consists of twenty-four companies and the management fee distribution was analysed between all companies except company A which management expenses were distributed. However, those companies have been operating in different fields. Thus, the question arose whether the results would change if the companies analysed would perform similar operations. All companies from the group D has been developing and operating cattle breeding and slaughter, including selling slaughtered cattle for further processing, administration and operation of cattle slaughtering plants, except company D.0 had 15 and performed managerial services. Thus, it was decided to check company's D.0 management fee distribution since this company has created separate managerial services centre and has charging its expenses to the companies it managed, i.e. companies D.1, D.2, D.3 and D.4. The methodology and assumptions were the same as before when analysing all companies from the group. The results are provided below:

Table 13. Management fee distribution based on turnover in D group companies

Base 1				
No	Company	Actual profit, €	Profit after adding redistributed fee, €	Change, %
4	Company D.0	741.213	0	
5	Company D.1	-191.033	-135.798	28,9%
6	Company D.2	-62.418	-31.978	48,8%
7	Company D.3	162.119	123.398	-23,9%
8	Company D.4	213.343	166.390	-22,0%

As shown in the table 13, when the profit has been redistributed based on turnover, company's D.1. loss decreased by 28,9% and company's D.2. loss decreased almost by half, thus improving the result of these companies. Then, both and companies' D.3. and D.4. profits decreased. When evaluating their turnover, it was noticed that company D.1. had the lowest turnover and company D.4. had the highest turnover. Therefore, it could have been assumed that the company D.1. would have the highest result increase and company D.4. would have biggest negative impact on its profit. However, the results showed that company D.2 increased its result the most significantly and company's D.3 result received the biggest negative impact.

Table 14. Management fee distribution based on profit in D group companies

Base 2				
No	Company	Actual profit, €	Profit after adding redistributed fee, €	Change, %
4	Company D.0	741.213	0	
5	Company D.1	-191.033	-74.772	60,9%
6	Company D.2	-62.418	-7.700	87,7%
7	Company D.3	162.119	82.550	-49,1%
8	Company D.4	213.343	121.933	-42,8%

After analysing management fee distribution based on turnover, the base was changed to profit without administration fee impact. The results in the terms of positive/negative impact and the biggest/lowest impact received were quite similar compared to the management fee redistribution based on turnover. However, it was noticed that in general the fee impact almost doubled, e.g. company's D.2 result improved by 48,8% percentage in the first case and 87,7% in the second case. It was probably because of the assumption that the company D.1. with the worst performance should not have received management services charge at all.

Furthermore, it was decided not to redistribute the fee based on employee number since companies D.1, D.2, D.3 and D.4 did not have any employees and it would not be relevant to perform the distribution according to the base 3. Furthermore, the management fee distribution has been performed based on gross asset value. The result can be seen in the table 15.

Table 15. Management fee distribution based on GAV in D group companies

Base 4				
No	Company	Actual profit, €	Profit after adding redistributed fee, €	Change, %
4	Company D.0	741.213	0	
5	Company D.1	-191.033	-178.556	6,5%
6	Company D.2	-62.418	-47.018	24,7%
7	Company D.3	162.119	130.727	-19,4%
8	Company D.4	213.343	216.858	1,6%

After performing fee redistribution, it was noticed that in this case three out of four companies improved their performance which was interesting because the value of the assets of all four companies have been quite similar. However, company D.3 had slightly more assets and thus received the biggest portion of the management fee. Finally, the management fee has been redistributed based on net asset value. The results are provided in the table 16. Companies D.1. and D.2. had negative net asset value due to accumulated losses in the past years. Since company D.1 had the lowest net asset value, it did not receive management fee and increased its performance by 60%. However, company D.2. improved its performance by 121% and turned the loss to profit, even though it had received the bigger portion of the management fee than company D.1. Both companies D.3 and D.4 have received negative impact to their results.

Table 16. Management fee distribution based on NAV in D group companies

Base 5				
No	Company	Actual profit, €	Profit after adding redistributed fee, €	Change, %
4	Company D.0	741.213	0	
5	Company D.1	-191.033	-74.772	60,9%
6	Company D.2	-62.418	13.143	121,1%
7	Company D.3	162.119	43.770	-73,0%
8	Company D.4	213.343	139.870	-34,4%

After analysing group D companies' fee distribution it was determined that the highest turnover and the highest management fee does not mean that the company's result would have the biggest negative impact and likewise, lowest turnover and the lowest portion of management fee received does not necessarily mean that the result would improve the most. Also, it was noticed that quite similar distribution base can give quite different impact and change the result up to 25% both negatively and positively as in gross asset value example. Thus, it can be stated that the result change after management fee redistribution is also affected by the ratio between the actual profit and the management fee amount distributed.

The fee distribution base change proves that the management fee is an important tool in changing a company group unit's profitability and the change can be really significant depending on the calculation method. That is why the controlled party transactions are supervised by government institutions and fines are given to those companies who manipulate management fee distribution illegally in order to avoid taxes. Also, the inadequate management fee distribution can affect management decisions negatively when evaluating one of the group companies' performance. For example, it can lead to the termination of the operations of poorly performing companies when in reality those units were performing well but were charged with the incorrect management fee.

Conclusions

1. The constituted model was determined to be a beneficial tool for evaluating how company's profit can be improved through management fee distribution. It could also be used for recalculating and increasing the efficiency of the old administrative agreement fees. There are some observations presented that might be helpful for distributing the management fee and applying the model. When determining the existing fee distribution, there might be an additional management fee distribution structure where the managerial expenses pool has been conducted differently and therefore it should be eliminated from the main distribution scheme. Also, it is important to consider existing limitations and making relevant assumptions. For example, the company with the worst performance in the group should not pay management fees. There were several expected results to be received after conducting the research, however some of them showed contrary results. It was presumed that it is not fair to distribute the fee according to assets in the group where units participate in different activities, due to the fact that the companies who own a lot of assets, for example real estate rental companies, would gain huge disadvantage and receive a great portion of management fee even though the management services provided might not be that beneficial compared to other types of operations. However, research results proved that companies with highest gross assets values due to investments in real estate have experienced just 2-3% change in profit.
2. It was noticed that a few management fees were calculated initially and never adjusted. This way is not efficient and might scientifically distort company's result due to the fact that the managerial services received are not relevant anymore. It was interesting to see how the fee recalculation based on profit and turnover could give the opposite results. Then, it was noticed that companies with highest turnover and companies with the lowest turnover can both change their result positively even though their performance evaluated by turnover is completely different. After evaluating profitability change in all five cases, it can be determined which company is overcharged. Finally, it was noticed that the three best and worst performing companies had kept their position when the results were sorted from largest to smallest. The placement had varied more between the companies which results were closer to the average. Thus, the company group unit's result after the management fee redistribution is affected both by the base on which it is being redistributed and by the ratio between the actual profit and the distributed management fee amount. Finally, the constituted model proved that the management fee distribution can significantly change the profitability of the company group's unit, thus leading to the wrong decision making toward the unit's performance and even future success.
3. It is crucial to calculate the appropriate management fee and distribute it efficiently. It was concluded that in Company X case, management fee distribution based on profit might be the most relevant option because it evaluates both revenue and spending. Also, in this company case, the old management fee effect could have been reliably removed. However, every company group situation is different, and it is hard to say which distribution base is the best. The recommendation for the other companies would be to determine which base is best suited to the nature of the business. Even though the model might advise which of the fee calculation base method might be the best to receive the desired result, it should not be used to shift profits to the country with the lower tax rate if the fee calculation choice means that the management fee charged is not equivalent to the actual benefit of received by the company.

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